

Absolute Magnitude

Science Fiction

Spring 1997

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Editorial Notes

by

Warren Lapine

$$M = m + 5 + 5 \log P$$

Last issue we finished serializing Barry B. Longyear's *Kill All the Lawyers*. When I bought the novel from Barry I felt that he had given lawyers a bum rap, but it was such a good novel that I purchased it anyway. To that point I had never had a bad experience with a lawyer; in fact all of the lawyers that I had ever dealt with were fine decent people. Of course, to that point I had only dealt with business lawyers. Over the course of the last year my opinion has changed.

A number of months ago I was in a car accident. The accident wasn't very serious, and no one was injured. In Massachusetts it's illegal for a personal injury lawyer to contact a person who has been in an accident. The injured person must initiate the contact. That month I received three postcards from three different attorneys that said simply to keep them in mind should I ever need a personal injury attorney. None of the lawyers actually tried to talk with me about my accident; I am sure that they did not violate the law, but they certainly violated the spirit of the law. To them it was not a question of right or wrong, only legal or illegal. I believe that attorneys should hold themselves up to a higher standard of conduct than this.

Still, that experience was minor compared to what I was to experience when my fourteen year old daughter, Tiffany, was assaulted. An older and much larger girl came up from behind her, grabbed her by the hair, threw her on the ground, and then jumped on top of Tiffany and began punching her. We immediately pressed assault charges. The police took a report and everyone who spoke with the police agreed, including the best friend of the girl who had attacked Tiffany, that the attack had been unprovoked. The girl who had assaulted my daughter never spoke with the police. I was told that she and her parents had skipped two appointments and had never given a statement. Unfortunately, there were no adults present when the attack happened.

Several weeks later, and some time before her arraignment for assaulting Tiffany, the same girl came up behind another girl in school, grabbed her by the hair, threw her on the ground, and jumped on her and began punching her. Obviously the m.o. was the same. This time, however, an adult witnessed it. The same attorney handled both cases. He advised the girl to plead innocent to assaulting Tiffany as no adult had seen it, and guilty to assaulting the second girl because that had been witnessed by an adult. He then advised the girls family to press assault charges against Tiffany. When I found this out I was shocked. Tiffany was so clearly a victim in this situation that it seemed incomprehensible to me that anyone could press charges against her. It was not bad enough that she had been attacked and had her nose broken, now she had to deal with assault charges. As far as I was concerned this was another unprovoked assault on my daughter.

I consulted with my attorney, who does not handle criminal cases. She told me that this was a common tactic. After seeing the police report she told me that she

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Absolute Magnitude

Science Fiction Adventures

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Science Fiction

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Barry B. Longyear is the author of more than a dozen books and a winner of the Hugo, Nebula, and John W. Campbell Awards. This is his fifth appearance in **Absolute Magnitude**.

Dance of the Hunting Sun

by Barry B. Longyear

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It is Hrokah, Ita hunter of the Green Water clan, here beneath the seven moons, here before this fire, who has a strange story. I tell you now what I see:

There are drums, the calling of the witch child, and the great light. The Hunting Sun glistens, its yellow beams stream through the beards of the ratha trees, warming the land for the chase. Vapor rises where the light touches the moss, filling the air with the scent of wet green. Soon ancient Kibqui will rear on her haunches, lift her forelegs, and raise her withered arms to bless the Ita as the seven of us strike out across the giant grass to slay the swift tiky.

Kibqui's witch child sings the morning sun, the stalk, the chase, and the release of the spirit, the gift of the tiky. The witch child's voice is sharp in the air. I feel my breath quicken with the thrill, then it slows. I feel my back tingle. My usual excitement standing before the Hunting Sun fades as I remember there are not seven of us before the sun today, but eight.

I look at the eighth without appearing to look. The edge of my sight takes the image of the visitor in his strange armor. Fadak uses a weave of stone-hard baka quills across his chest for armor, and I string a plate of sun metal over my heart. The visitor, though, is completely covered with ribs of silver and black, his head enclosed in a silver metal gourd with a side of dark glass. Behind the glass must be his face, but I cannot see it. If I cannot see it I cannot read it. I want to ask the witch about him, but Kibqui told us there would be a visitor on the hunt and not to shame her with foolish questions. There is a new amulet hanging from a chain around her neck. It is gray with three black lumps.

Before the hunt Kibqui said that the visitor is not the Lifebringer, even though he comes from beyond the world. "Much less than the Lifebringer," she hissed, sweeping with her claws at the ground before her forelegs. "Much less. He is a *man*." The strange word seemed uncomfortable in her mouth, Kibqui, she who could feel no fear, seemed afraid.

"What is a *man*?" I asked her.

Kibqui rose from her haunches and swept a clawed hand from her front to her tail. The witch's gesture was more than an admission of ignorance. It declared that the answer was beyond her sight—beyond arfy watch's sight. She looked at the amulet and turned her back on me.

Before the Hunting Sun, she turns her eyes to the sky. "Come Akienda," calls the witch, bringing my mind back to the hunt. Again she calls the wind spirit, placing it at our faces to hide our scent from the tiky. She warns the spirits of the grass, brush, and stones of our coming and begs them to allow us to pass silently. The witch child cries out and beats again upon the drum that was ancient before her grandmother's grandmother first saw the Hunting Sun.

Before the hunt, Fadak told me that his clan mother, Ivah, had seen the visitor come the evening before from her hut on the edge of the red cliff far toward the northern stars. She said he descended in a great hollow white log that roared thunder and vomited flame. I listened but said nothing. Too many strange things were happening for me to say them in words and be saying anything. Yet I remember the sound of the thunder

in my dream of the night before. In the dream I saw a great plague coming to the land, sweeping the Ita and all of the tribes before it just as so much dust. My dance is troubled and I look to the Hunting Sun and send my prayer to dance once again in Step.

At the hunt, in the light of the sun, I feel the hair on my back rise as I feel strange eyes looking upon me. I look again at the visitor, no longer hiding my gaze. The dark glass of his head armor faces me and I am certain he looks at me. It is a soul stealing look. With my spear in my right hand, I turn and face the visitor. "Why do you look upon me, evil thing?"

The name slips out without thought. Kibqui warned us about asking questions that would shame her and I had asked such a question. It was the question on my heart, though, and my guardian, the Twisted River, would not reproach me for speaking my heart. It is my right as Ita.

Kibqui stares at me, her yellow eyes fierce with anger. Before she can speak, the visitor faces her and speaks, the voice a crackling jumble of sounds. As he speaks, Kibqui's expression hardens. With her magical powers Kibqui understands the visitor's talk. I do not understand the talk, but I do understand Kibqui's face. She is greatly troubled.

The *man* faces me and Kibqui says, "Hrokah, show the *man* your yellow armor."

My claws click against the sun metal as I place my hand on the shield. The visitor takes three steps toward me on his two legs. When he is almost on me, he reaches out his armored hand. I lower mine from the shield and the visitor leans toward me. For a moment I see something behind the dark glass of his head armor. There are tiny red and yellow lights and two blue ones. The lights are smaller than winged daphs. There is a head behind the dark glass yet the face is only a shadow.

The visitor's hand touches my sun metal shield, then he takes his hand away. Reaching up with his other hand, he seems to twist off the first hand, but soon the first hand is bare. It is a fragile, pale thing, with hardly any hair. Instead of claws it has curved plates at the ends of the fingers. The naked hand reaches up and again touches my shield. He moves the fingers across it, then down to the bottom. There he lifts it to judge its weight. When he releases it the visitor faces Kibqui and makes more talking sounds. When he is done Kibqui aims her yellow eyes at me.

"Hrokah," she says, "there is a different hunt for you today. Take the visitor to the Yellow Valley. Show him the Sun Metal Stream. Help him in his hunt."

All I say, of course, is "Yes, Kibqui!" Much in me wants to rebel, though. I lead the hunt for the tiky. Was it not the Twisted River who favored me with my speed, my courage, and my strength? Was it not the wind who selected me from all the Ita to carry the first spear?

Still it is Kibqui who extends the hospitality of the Ita to this visitor, and Kibqui serves the spirit of the fireside, Nanlo, who commands our hospitality to all who come. I serve Kibqui and so I hold out my hands to the *man*, turn, and offer my spear to Yataneh. He takes it from me and, as he holds the weapon across his chest, Yataneh stares at me with brooding eyes.

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"The visitor, Hrokah. Why is he here? What is his interest in the sun metal?"

"Am I Kibqui to have such answers?" I demand.

Yataneh is not daunted by my bluster. "Hrokah, before the morning I had a terrible dream."

"I too, Yataneh." I place my hand on his arm and say, "I have fears, but I know nothing. Kibqui commands me to take the visitor to the Yellow Valley to hunt. I will do that. I command you to take the hunt for the tiry. You will do that."

Fadak walks up and holds his arm out, his fingers and forearm pointing straight up, his sign for the visitor's flaming log. Then Fadak lowers his arm and places his fist over his shield of baka quills, signifying me to be on my guard.

I turn from Yataneh and take the trail deep into the shadows of the ratha forest. I do not look behind me, but I hear the steps of the *man* following. The witch child stops her singing and the hunt begins.

The shadows are still long as we reach the rocky pass into the Yellow Valley. I look back to see if the *man* has kept up, and he is close behind me. I turn and hold out my hand toward the pass. "The Yellow Valley is beyond."

The visitor rocks his upper body toward and away from me. As I watch he removes both of his armored gloves and attaches them to his waist where are attached many mysterious things. After that I hold my breath as he grasps his head armor, twists it, and removes it from his head. I almost do not notice him attaching his head armor to his back as I stare at his face. His eyes are deep-set and dark, his skin almost hairless and pale. The skin glistens from moisture and he wipes his hands across his face. He looks very weak; as though the youngest child, born this season beneath the fourth moon, can overpower the *man*. Still, he does not act weak. Instead he behaves as though all of the gods of land, sky, and water are guiding his footsteps and guarding his back.

He looks at something on his arm. It is a black flap that suddenly erupts in little red and blue lights. Letting his arm fall, he takes a strange tube from his belt, places the wide end of the tube over his mouth and nose, and breathes deeply. Before he takes another breath he cracks open his armor, steps out of it, and gently leans it against one of the few trees that grow near the valley. He takes another breath from the tube, then removes a silver bottle from the armor's belt and attaches it to the pale green skins that now cover his body. The tube is attached to the bottle and the *man* takes another breath from the tube. He takes several more things from the belt and attaches them to his green skins. Finally he takes something and holds it out to me.

The thing dangles from a chain and it is an amulet like the new one Kibqui wears. He gestures toward me to take it. With his other hand he pulls a similar amulet from within his green skins and shows it to me. I do not understand, but I take the amulet. He gestures once more and I place the chain over my head. The human speaks and again the words are just a jumble of sounds. Yet there is meaning to the words. The sense of it is "Can you understand my words?"

"Yes," I answer, my voice quiet in the face of this magic. He takes a step toward me, plays with the lumps on the amulet, and asks again. "Can you understand my words?"

"Once more, yes."

His head bows once. "Now I can understand your words." He points at the amulet. "Kibqui told me that I must tell you: this is not magic. It is a tool of my people made for understanding words."

I look down at the thing hanging before my shield. I think a moment about stupid questions and that Kibqui is not here. I look at the *man* and say, "Tell me why you have come."

The skin above his eyes bunches toward the center of his forehead as he adjusts his own amulet. "Say the same thing once more using different words," he says.

"What is your goal, *man*, that brings you to the land of the Ita?"

"Goal?" He thinks for a moment, then he points toward my shield.

"I come for to find the sun metal. There are other metals. And special stones I come for to find them, also."

I hold up my head, my tone suspicious. "This is all?"

The visitor bursts out with odd sounds and shakes his head. The sense I get through the amulet is, "You are amusing." When he stops making the sounds, he says, "This is all. I come for the metals and the stones."

Then it is my turn make sounds of happiness. I wasn't certain why the visitor had come. I thought he might be here to hunt our souls, to change the Ita life, to hunt and kill the gods, and many other things each one more awful than the next. He asks me, "Why do you find my words amusing?"

"I know you hunt, *man*. I feared what you hunt to be our rare treasures, yet all you hunt are the metals and some stones. We have mountains of metals and stones."

He takes a breath from his tube and points at my shield. "Mountains of this?"

I look at my feet, bend down, and pick up a few pieces of sun metal. I come back up and open my hand, holding it out toward the visitor. "Witness this. These are small pieces. In the Sun Metal Stream the pieces are much larger."

He looks into my hand, his eyes wide. He says, "Most sacred excrement!" except the *man* words are much shorter. He squats down and picks among the dirt of the trail. After picking up several things, pieces of sun metal, more pieces of night metal, moon stones, blood stones, water stones. "Savior!" he says, and again, "Most sacred excrement!"

It is a gift to me to share in the visitor's spiritual ecstasy and I call to him, "Man, only a few steps from here, in the valley at the stream, there are lumps of those metals and stone that make what you find on the trail look like dust."

He falls over backwards, his eyes aiming in different directions. His right hand slaps about until it locates the tube. He places it over his mouth and nose, sucks in deeply three times, and says, "I forgot to breathe." He makes those sounds again, except the sense of them is "I am so happy."

After a moment he stands and says, "I am ready to see this stream." I turn toward the pass, happy to lead the visitor to something that means so much to him. He follows, but he does not throw away the pieces of metal and stone he picked up from the trail.

Deep within the Yellow Valley, we reach the stream, choked with its lumps of sun metal. The gleam of the Hunting Sun reflecting from the wet metal hurts my eyes and I cross the stream and stand on the opposite side, my back warmed by the sun. The *man* stands before the stream, his mouth open, forgetting once more to breathe. After a breath from the tube, he allows his gaze to move across the sparse brush and flowers to the valley's rocky walls. There great bands of the sun metal reveal why it is called the Yellow Valley. He studies the walls, shakes his head, and squat by the stream. Reaching into the water, he seems to caress one lump of sun metal, then another, he lifts a third, drops it back into the water, then reaches in again and comes back out with a hand full of stones.

I see moonstones and bloodstones, a few pieces of warm ice, and green eye. The visitor takes another look up at the valley walls and shakes

Dance of the Hunting Sun

his head once more. Another breath and he takes a small thing from his waist and holds it over the stones in his hand. The thing is filled with tiny colored streaks. Quietly I hear him say, again and again, "Most sacred excrement!"

I do not understand his spirit communion, nor the part served by the stones and metals. Each of us, though, has different ways. The Ita call upon the Hunting Sun. The Atog follow the matath herds. The Resah burn ratha beards and wash themselves in the smoke. It was the Lifegiver who told all our ancestors that all ways lead to the spirit, and that no way is higher than any other. Although it seems strange to me, who am I to look with scorn upon this appeal to sacred excrement? It is enough to see the man at one with his god.

Later we climb the walls of the valley and he holds the small thing with the colored streaks over many different parts of the walls. By then he has lost his words, his eyes wide and lost in dreams. He fills the pouches in his skins with stones, then empties them and refills them as he finds a new stone, clearer, brighter colored, bigger. At last he sees the helplessness of his efforts to carry the valley and he keeps only one of each kind of stone and metal. As we walk the ridge above the valley, the man says, "I see no villages, no huts, in the valley. Does no one stay here?"

"No one makes a village here," I answer. "There are better places." I push at the trail with my right foreleg and dislodge a lump of sun metal the size of the visitor's hand. "Little grows here. In the village there is land that grows food, grains to feed our animals, thatch for our huts, grasses for our beds and ceremonial masks and dresses. Such land is very valuable, for most of the world is like this," I say as I hold out my hand toward the Yellow Valley below. "It is crowded with metals and stones where only a flower here, a stem there hangs onto life with the greatest effort."

"Most of the world," says the man. He turns, looks away from the valley for the first time and faces the Hunting Sun now touching the mountains far to the west. The sun metal in those mountains, and in the hills between the mountains and our feet, fills the eyes with thousands of reflected beams. I took the visitor up here to see this, since the sun metal is so close to that which he worships. There is no appeal to Most Sacred Excrement, though. Instead he stands silently at the reflections until the Hunting Sun begins the sleep. We return to the village by the light of the moon, the dancing sisters of the Hunting Sun.

That night the Ita hunters dance as the others cut the tikry meat, wrap it in iron bark and layer it in the fire pit above the great bed of coals. Once the layers are done, atche fronds are placed to cover the pit, allowing Namllo to mix the steams and juices. The drums and harps begin and are soon joined by the whistlers and singers. Soon the dancers are joined by their mates and by the growers, gatherers, weavers, and builders. As the flames from the corner fires climb into the night, the dancers throb to the drums. In between the corner fires, rising on a pedestal of hammered black metal, now burnished bright silver, is the perfect globe of polished sun metal, the Hunting Sun we carry with us into the night.

I am about to rise and join the dance when the visitor comes out of his silence. He sits on a grass mat, his legs crossed. The look on his face is not the happy look he had in the valley when he was praying to Most Sacred Excrement. "The singing. What are the words?"

"It is thanks," I tell him. "Thanks to the wind for staying in the faces of the hunters, thanks to the trees, branches, and rocks for not warming the tikry of the hunters' approach, thanks to the tikry for allowing us to share its life, and thanks to the Hunting Sun for seeing that we all found today what it was that we hunted."

"All of us?" asked the man. "You were taken from the hunt, Hrokah. What were you hunting that you found?"

"I found what pleased you, man. I found the sun metal, the dull metal, the black and orange metals, I found the moonstones, and bloodstones, warm ice, and greeneye. Mountains of them. Although not challenging, that was my charge today from Kibqui. The Hunting Sun granted me a great success today. What of your hunt, man? It too was a success."

"A weak word," he answered.

"I have no other word."

The man looks down and shakes his head. "I mean that my hunt succeeded more than I could have possibly imagined."

I study him for a moment, not wanting to be discourteous, but fearing nevertheless that my hunt might not have been as successful as I thought. "When you sit like that, man, and your face twisted so, I have learned these are signs of your sadness. What of your hunt are you missing?"

"Nothing." I see his head moving slightly to the beat of the drums. "I think I might have found something I didn't even know I hunted."

"Was this granted you by your spirit, Most Sacred Excrement?"

The visitor holds up a hand. After a moment he waves it back and forth. "No." His teeth bare in a sign of amusement. "No. Most Sacred Excrement is not my guardian spirit." He seems to freeze for a moment. He slowly lowers his hand and stares at the grass mat in front of his knees. "I may be wrong about that." He stays silent and deep in thought. Finally he faces me and says, "None of this has any importance to you. The sun metal, the stones, the other metals."

"They are useful," I answer. "The sun metal is easy to work into cups and shields. The orange metal is very good for cooking pots and needles, but it is very hard to work. We smash the moonstones into dust and use it to wear down and polish wood, metals, and other stones. Moonstone dust is very good for that. The children play with the bloodstones and greeneye. I made my mate a rope of greeneye stones to wear down her back. These things have many uses, but they are not important."

The visitor faces the dancers and asks, "What is important?"

I am very troubled by the question, for there are many important things. If the visitor is testing me, Kibqui would want me to do well. "Health is important. Food. And water. Land in which to grow food and water is important. The hunt. The hunt is very important. Children, our mates, the spirits of the land, water, and sky. Avai is my mate. I am important to her."

"You know this?" he asks.

"Of course. It is part of the dance." I look away because I don't want him to see in my eyes how foolish I judge his question to be.

"What is most important to you, Hrokah?"

I realize how little he knows and I scold myself for thinking the man foolish. For one who knows nothing of the Ita, it is a good question.

"Most important to me is the dance."

He nods toward the dancers and asks, "This?"

"Yes. This is part of the dance." I point at him and then to myself. "We too are part of the dance. We hunted for different things, we danced in step with the Hunting Sun, and found what we sought. That is a very important part of the dance. The morning before a hunt, standing silently in the mists, waiting upon the Hunting Sun, is my favorite part of the dance, for then my soul fills with the belonging I have here, with the Ita, with the land, with the Hunting Sun, and with the universe."

He is silent for a long time and I think his questions are at an end. The beat of the drums catches me and I rise to join the circle around the image of the Hunting Sun. Soon my body is filled with the music and my eyes are filled with the light of the fires. The children of the Ita come to the

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dance ring, staying to the edge as their teachers watch to see how well the children have learned their dances and songs.

My spirit is carried high above the fires, up into the land where the Hunting Sun never sleeps. As I fly among the stars, I smell the scent of my mate. Avai's image comes into my mind, and she sings to me:

Hrokah, I see your dance.

It is so strong and clever.

Now has the Hunting Sun honored you today?

What have you brought to the fire?

I answer her:

Avai, you see my dance.

It is more than it has ever been.

The Hunting Sun has granted me all that I wished.

I bring to the fire two full hearts.

I hold out my hand toward the *man* and see that he is looking back at me, the word amulet in his hands. He looks as though he is being ridden by a ghost. He rises and leaves the fire. Perhaps I am wrong about the fullness of his heart.

That night I am anxious to sleep. Tomorrow there will be another Hunting Sun and I hope to stand before it with my spear. There is something that needs doing first, and before we sleep Avai and I conceive our first child, named Kaman for the visitor.

I dream again about the thunder. I see tribes of strange beings slaughtering other tribes, mighty spirits who once ruled worlds, fading into shadows, the Ita facing a bleakness of life and soul bringing a pain that cannot scream. Warriors, hunters, growers, weavers become sick and then become nothing, their souls lost to walk the universe in endless dark while their bodies sit lonely and wishing for death. The dream awakens me long before the rise of the Hunting Sun, the images of lost souls still warning behind my eyes. There is a shadow in the opening to my hut. It is Kibqui.

I rise and go into the night, the corner fires now only coals and sweet smoke. "Can I serve you, Kibqui?"

The witch studies me for a long time. Without moving her gaze she says, "I saw your dream, Hrokah. Did the Dreambringer tell you why she brought you that dream?"

I shake my arms and let my head lean toward my right shoulder. "I did not see the Dreambringer. I thought I might have taken the dream from Avai."

"Not that dream, Hrokah. Avai's dance moves its steps through peace and beauty. The dream came from elsewhere."

I straighten my head. "The *man*. The dream came from the *man*."

Kibqui turns and walks the few steps to one of the corner fires. She lowers herself to the grass mat and looks up at the globe of the Hunting Sun. I lower myself next to her, watching her face. "You like the *man*?" she asks.

"I do. It was great fun finding the things he wanted and pleasing him so. Avai and I have named our first child Kaman."

"A good name. A name of significance." The witch, her troubled face looking up at the stars, says, "I see your thoughts, Hrokah. I see everyone's thoughts. That is the gift bestowed upon me by the Hunting Sun. I see also the thoughts of the *man* but I do not understand them."

"What are the thoughts like, Kibqui?"

"Like your dream."

To have thoughts like my dream makes the visitor a tortured creature. "Where is he?"

"Gone." The witch holds her hand up at the stars and says again, "Gone."

There is the hard feeling of loss in my chest. "Will he return?"

Kibqui looks at my pleading face and her eyes fill with sadness. "He says he will not return, but perhaps he lies. The ghosts that drive him are very dark." She opens one hand and holds it open to me. On her palm are the metals and stones the *man* chose from the valley. I take them and hold them.

I look up at the stars and wonder if he will return. I too read something in his thoughts. Once he had the dance but it was taken from him. He wants the dance again. I thought his love for the sun metal would bring him back his dance, but I was wrong. His dance is from another sun. The witch goes to her hut and I look up at the image of the Hunting Sun and pray that, wherever he goes, the *man* will find his dance.

Now that my steps are slow, now that Kibqui dances in the sky and is followed by three more witches, now that my own firstborn is the witch who prays for the Ita each day before the Hunting Sun, I know the visitor keeps his word not to return. I thought he came for the sun metal. I think he thought the same. I do not know why he left. I am not sure he knows. Still I look at the stars and pray for him to find his dance, this visitor, the *man* George Six Eagles.



SCAVENGER'S NEWSLETTER

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Primary Ignition

by Allen Steele

So I'm sitting in the Absolute Magnitude Building, located at DNA Publications Plaza in the bustling metropolis of Greenfield, Massachusetts, with *AbsMag*'s esteemed editor and publisher, Warren Lapine. It's a drizzly November afternoon, a good time to sit around the kitchen table and chat about this, that and the other. Favorite books, cool movies, interesting TV shows as well as not-so-great TV shows, boring movies, and books we'd sooner forget. NASA's "Mars Observer" probe, which was scheduled to lift off yesterday morning from Cape Canaveral. A decommissioned ICBM missile silo outside St. Louis which has transformed into a Halloween haunted house with a post-apocalypse theme, complete with charred soldiers and screaming mutants. Whether the kitten curled in my lap is telepathic. Stuff like that.

It's the sort of thing science fiction fans tend to talk about when they get together. It doesn't change if you become a writer or editor, because at heart you're still a fan, and I've seldom met SF professionals who now consider what they do solely as their line of work. Warren and I had been carrying on marathon long-distance phone conversations about this stuff for nearly five years the fact that we only met face-to-face for the first time this afternoon, when he picked me up at Bradley International in Connecticut to escort me to a small SF convention at the University of Massachusetts to which I'd been invited, hasn't changed the subject or tenor of the conversation one whit. So now we've got two big kids sitting around a kitchen table, shooting the breeze about old Ace Doubles, Bob Eggleton paintings, and how much the recent *Star Trek* TV shows suck.

Anyway, during a lull in the conversation, I take the opportunity to throw out something I've been contemplating for the past few months. "Hey, man," I say (rather tentatively; the notion is still only half formed), "I kinda . . . y'know, I've been meaning to . . . uh, I've got something that . . . well, I've been thinking about lately . . . sort of an idea,

y'know . . ."

Warren waits patiently. Warren's the soul of patience. He's an editor; suffering goes with the territory. "So what is it?"

"Umm . . . I'd kinda like to do a regular column for *AbsMag*. I mean, if you're interested."

"Cool. What's it going to be about?"

"Well . . ."

We live in science fiction times.

That's an expression we've heard so many times in recent years, it's become a self-perpetuating cliché, to which the appropriate response is: *Yeah, tell me something else I don't know.* The days when people were astonished by manned spaceflight, global telecommunications, desktop computers, industrial robots and other technological marvels are long since past. Cell phones are commonplace items, the prospect of extraterrestrial intelligence is no longer a subject of ridicule, and virtual reality is something that's already come and gone . . . out of the shopping mall, at least, if not the lab.

Manned expeditions to Mars were once considered the stuff of SF novels and movies. In the last few years, the subject has graduated to the covers of *Time*, *Newsweek*, and the *New York Times Sunday Magazine*. I've got a button in my desk junk-drawer, "Mars Underground Member," that someone gave me when I was working as a Washington correspondent in the mid-'80s. Back then, in some circles in and around NASA, even talking about sending people to the red planet was as inappropriate as wearing a Sandinista button (got one of them, too, from the same time-period) to a GOP power breakfast. Now it's hard to talk someone in the space community *out* of Mars exploration as the next major goal.

Computer viruses were once arcane. The late John Brunner extrapolated them over two decades ago in his novel *The Shockwave Rider*, a book which only SF aficionados read. Now they're something every Windows 95

user dreads each time his system inexplicably crashes... *oh, shit, was there something in that shareware I downloaded last night?* We won't even talk about the genesis of the word "cyberspace"; you've heard it before, and even Johnny-comic-lately trendoids have gotten sick of the term.

On the night of the most recent presidential election, exit poll projections were made so quickly by TV reporters standing within computer-simulated newsrooms that the public knew the outcome long before the candidates were able to give their concession or acceptance speeches. Bob Dole's campaign staff was so confused, it first issued a concession statement, then retracted it and gave another one claiming the first one was a mistake, then went back to the original when the electronic map clearly showed that the majority of electoral votes had gone to President Clinton.

And then there's Theodore Kaczynski. A former Ivy League professor who became the accused Unabomber, living alone in a windowless Montana cabin, writing ponderous denunciations against industrialized civilization on an antique typewriter while building bombs into carved wooden boxes, he was the last great Luddite, a 18th century revolutionary busted by the FBI on the eve of the 21st century. The man who couldn't cope.

Everything I've just mentioned—Mars exploration, computer culture both legit and outlaw, electronic elections, underground bombers—either have been the subject of SF novels and stories, or at least should have been. However, these are only a few of the more melodramatic examples; the daily fabric of our lives is woven from threads which we've come to take for granted, but which even back in 1958, the year I was born, would have been considered laughable, even incomprehensible. Paul Simon got it right in his song "The Boy In The Bubble," when he cited "days of miracles and wonder," with laser beams in the jungle and voices in the air, but it isn't enough to say that we're living in

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science fiction times. Ever more increasingly, everyday life has begun to resemble a science fiction novel, one in which we're all playing small or large roles.

This is what "Primary Ignition" will be about: the collision between science fiction and science fact, the mosh pit where reality and fantasy slam dance. This isn't going to be a "science column," at least as traditionally done in other SF magazines both past and present. My colleagues Gregory Benford, G. Harry Stine, and Robert Metzger have better credentials for doing that sort of thing, and I can't hope to compete with what they do. I'm what Frederik Pohl calls a "science chaser": someone who doesn't work in labs, but who gets off on what comes out of them. Because I'm also a science fiction author, though, I'm going to try to pick out the places where the two rub shoulders, or even throw each other around the room. Opinion on subjects pertaining to science, SF, and everything in between.

Which brings us to the topic of our first installment....

When I moved to St. Louis six years ago, what passed for city's science museum was the McDonnell Planetarium, a large round building shaped like a squashed hourglass at the edge of Forest Park, overlooking the six-lane rush of I-64. It wasn't much of a science museum, a rather second-rate collection of dusty hand-me-down knick-knacks like an old jet engine and a Gemini space capsule, but by then construction had already commenced on a new science center on other side of the interstate, which would be connected to the planetarium by an enclosed crosswalk.

The St. Louis Science Center opened in the fall of 1991. Three stories tall and about half a city block in size, it's now one of the country's largest science museums. The new science center is as cool as the old one was boring: an Omnimax theater, a life-size animatronic T-rex, hands-on exhibits of computer technology and industrial robotics, a lower level devoted to environmental science, a tunnel which recreates the coal mines which once lay beneath the city (and which once included a live rat who, I suppose, was put into retirement after enduring thousands of children tapping his Plexiglass cage). The crosswalk includes swivel-mounted radar guns which you can use to clock the cars speeding beneath the bridge; for a while, cops used to lurk on the shoulder beneath the crosswalk, using the museum's radar to mask their own guns and thus nail commuters who had become accustomed to

having their radar detectors buzz when they shot past.

I visit the St. Louis Science Center quite often, usually to catch the latest Omnimax movie, do a little research for a story I'm writing, or just to goof off. It's my playground, the place where I go to have fun. Admission is free, but every year I renew my membership, and consider thirty bucks a small price to pay for this kind of quality entertainment. But I still haven't told you about my favorite place in the museum....

After you walk across the bridge, through the coal mine, and past the medical science exhibit, you come out in the planetarium basement. It is here, within a large circular room which was remodeled when the science center was built, that you find something that I've never seen anywhere else in the country: a permanent museum exhibit devoted entirely to science fiction. It's formally titled "Space and Popular Culture," which seems to be a way of getting around the dreaded S and F words. Yet it's an SF exhibit nonetheless, and a pretty good one at that.

At its center is a mockup of a spaceship bridge: low consoles filled with nonfunctional switches and buttons, random digital displays, view screens depicting images of stars, planets, and galaxies. Children run back and forth, jabbing buttons and toggling switches while screaming that the Klingons are attacking before staggering across the carpeted floor when photon torpedoes hit. Wish I had ones of these when I was a kid; my imaginary spaceship had been my bedroom closet, where I scrawled meters, levers, and screens with chalk and pretended that I was in a Mercury space capsule (when my family moved out of the house fourteen years ago, I was surprised to find, when I emptied out my old closet, that those make-believe instruments were still there).

Kids today have better space toys, but you don't have to look far to find the ones you had when you were young. The circular walls surrounding the spaceship bridge are lined with glass display cases, and within them are all the things you surrendered to the Salvation Army when you hit puberty, and have missed since then. Slowly stroll around the room, passing framed movie posters from *King of the Rocket Men*, a double-feature of *When Worlds Collide* and *War of the Worlds*, and 2001: A Space Odyssey, and here's what you find:

A Tom Corbett Space Academy play-set. A lunch box from the late-'70s *Buck Rogers* TV series. *Mork and Mindy* dolls (does Robin Williams have one of these?). A *Doctor Who* pop-up TARDIS book. A *Battlestar*

Galactica Milton-Bradley game. *Space: 1999* View-Master slides and comic books. *Last In Space* trading cards and a publicity photo of Jonathan Harris and Bill Mumy. Here, an entire case devoted to *Star Trek* memorabilia from the original series: a U.S.S. *Enterprise* bridge play-set, a kid-size Mr. Spock Halloween costume, a tribble (still looks like a fuzzy pink hand warmer), Gold Key comic books, a Lt. Uhura doll, some bedroom curtains. There, a boatload of vintage *Star Wars* merchandise: a beach towel, a Frisbee, a coffee mug shaped like Princess Leia's head (can imagine having your morning wake-up call from that thing?), a box of Pepperidge Farm cookies, a cereal bowl, and the ubiquitous action figures, some of whom bear only passing resemblance to Mark Hamill and Harrison Ford. And, oh yes, all that *E.T.* merchandise you hoped you'd never see again.

But it's not all kid stuff. Whoever designed this exhibit knew what they were doing. One case is devoted to the impact that UFOs have made, so here you have not only toy flying saucers and a box of Quisp breakfast cereal, but also portable TVs and table lamps from the early '60s that look like the things you've seen in out-of-focus snapshots (come to think of it, perhaps they were). The space motif is repeated in a case devoted to pre-Sputnik household items that faintly resemble rocket ships: not only a 1939 tin Buck Rogers Rocket Police Patrol toy, but also a 1950 Mercury hood ornament, a coffee carafe, salt-and-pepper shakers, ice crushers, Popsicle molds, an electric fan, a Thermos bottle, and a flower vase... all streamlined, with tiny little fins, looking more or less like *Luna One* from *Destination Moon*.

You want robots? They got robots: tin toys, windups, a cookie jar, a coin bank, an electric fan, an AM/FM eight-track tape deck with eyes and a mouth. Zap-guns? An Atomic Disintegrator cap gun from 1949, a tiny black whistle-clicker ray gun from the same period, a Laser Ray Gun Flashlight from the '80s, a *Star Trek* target phaser from the '60s... and, best of all, a spottless Buck Rogers atomic pistol from 1945, identical to one on the cover of the first Foo Fighters album.

My personal favorite is a Major Matt Mason figure. I'm literally a child of the '60s; back then, I had every toy in Mattel's Major Matt Mason line: the moon base, all the battery-powered vehicles, the other five-inch rubber astronauts and all their alien pals. Even the space glider that the stoned babe on the cover of the *Blind Faith* album is holding; every guy I knew was horry for the girl, but I want the space glider (although the girl wasn't

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bad, either). Major Matt's presence in the exhibit represents a lot of what I fondly remember from my childhood: space dreams from the Apollo era.

I'm not the only one. Teenagers walk past this stuff with only a disinterested glance, but more often than not I find adults standing before these cases, staring with wistful eyes upon something they'd left behind years ago, only to rediscover it here and now. "God, I once had one of those!" is what I hear most often, usually followed by, "Geez, why did I ever get rid of that?" How many times have otherwise law-abiding men and women entertained fantasies of breaking the glass with their fists—futile, since it's eighth-inch shatterproof Plexiglass—grabbing some priceless item, and making a run for the stairs? Then cold reason prevails and they shuffle away, cursing Mom for giving all their stuff to the March of Dimes.

And then, as you come around to where you started, your eye falls on a large transparent column, and within it you see something that isn't vacuum molded, plastic-injected, or runs on D-cell batteries...

Books and magazines. The stuff you read, remember?

On a seven-foot revolving stand, a small collection of paperbacks, pulp magazines, and hardcovers. Some are so rare as to make a bibliophile's mouth water, such as a 1928 hardcover edition of *The Master Mind of Mars* by Edgar Rice Burroughs and *Through Space to Mars* by Roy Rockwood. If you're familiar with Max Brand only through his westerns, the inclusion of a '30s fantasy adventure he wrote titled *The Smoking Land* may surprise you. Robert A. Heinlein is represented by the first paperback edition of *The Man Who Sold the Moon* and *One* paperback editions of *Between Planets* and *Rocket Ship Galileo*. Frank Herbert's *Children of Dune* and *God Emperor of Dune* are present (although, surprisingly, *Dune* isn't). A 1947 issue of *Anazing*, featuring *The Star King* by Edmond Hamilton, is prominently displayed, as are issues of *Astounding*, *Galaxy*, *Fantastic*, and *Thrilling Wonder Stories* from the early '50s.

There are the cheap Avon paperbacks editions of Jules Verne's *From Earth to the Moon* and *Round The Moon* (the ones whose typeface was so tiny that you could barely read it; did anyone else get bloodshot eyes from those things?), and a mid-'70s hardcover reprint of Ray Bradbury's *The Martian Chronicles*. Children's SF is represented by *Commander Toad and the Intergalactic Spy* by Jane Yolen, Harlan Ellison's *Alone Against Tomorrow* is the emissary from the '60s New

Wave, and Stanislaw Lem's *Memoirs of a Space Traveller* is the ambassador of European SF. Books by women authors include *The Female Man* by Joanna Russ, *The Dispossessed* by Ursula K. LeGuin, and *The Sardonyx Net* by Elizabeth Lynn.

It's a well-rounded collection, although hardly a perfect one. Although *The Best of C. M. Kornbluth* is on the stand, there's nothing by his fellow Futurian and collaborator Frederik Pohl. The fact that there's nothing here by Isaac Asimov is a glaring omission made more ironic by the fact that the bookcase is within sight of the toy robots. And since the most recent book is Samuel R. Delany's *Stars in My Pocket Like Grains of Sand* (published in 1984), an entire generation of SF authors is missing: there's nothing here by the cyberpunks, the New Romantics, the Killer Bees, the Analog Mafia, or the radical hard-SF writers who came up during the '80s and '90s. It's as if whoever made the selection stopped reading science fiction about twelve years ago, then based his or her decision of what went on display from dated knowledge of the genre, not to mention personal taste.

And yet, and still...

Take a broader view of what this means. All of it, not just the individual pieces.

I belong to the last generation for whom science fiction was a forbidden pleasure. It was okay to smoke pot when you were a teenager in the '70s, at least in the eyes of your peers, but being caught with a science fiction book was massively uncool: *eww, do you believe that Star Trek stuff?* (as if belief had anything to do with it). If you read junk like *The Teachings of Don Juan*, *Jonathan Livingston Seagull*, or *The Prophet*, that was okay; because they like, y'know, explained everything. But *I Robot* or *The Stars My Destination* or *Ringworld*? Get outta here, you dork! And don't come back until you've read *Sun Signs*!

Much has changed in the twenty years since I graduated from high school. I think it was *Star Wars* that did it, but I could be wrong; perhaps it was the sudden acceleration that both technology and popular culture took after the late '70s. Hand-in-hand, they moved science fiction out of the hands of teenage outcasts and into the mainstream. What I know is this: when I visit local high schools to be a guest speaker, I don't find classrooms full of kids who look at me like I'm a weirdo. They're reading SF, watching SF, playing CD-ROM games based on SF concepts. It's part of their basic culture. They don't think the prospect of living and working on a space

station in the 21st century to be odd in the least way.

Now I find some of my favorite books on permanent display in a science museum. Not only that, but there's also toys, records, trading cards, and Big Little Books that I fondly remember from my youth . . . and they're all presented as valid parts of our culture. Now, it may be difficult to perceive how *The Female Man* was influenced by the American space program or vice-versa, or to point to a *Space: 1999* View-Master wheel as having something meaningful to say about the human condition. Nonetheless, both are tangible evidence that humankind believes that there is a future, that this belief is reflected by popular culture, and that in at least one place in America this culture has been formally acknowledged.

It's all part and parcel of a greater thing, and I shouldn't have to tell you what that is. But I will, anyway...

Of all the gifts humankind has, imagination is our greatest. We used this gift to build space shuttles and manufacture tin ray guns, map the genome, concoct board games, write swashbuckling novels set on Mars, and launch probes to see if, by any chance, the ghosts of Tars Tarkas and Dejah Thoris may yet lurk in those cold red sands. And then we take our old dreams, fulfilled or otherwise, and carefully put them on display behind glass walls, to remind an older generation where we've been and to give the young 'uns a clue as to where to go. If life has a better purpose than this, I don't know what it is.

And that's why science fiction matters. It doesn't predict the future, but it lays the foundation. It shows us all our limitless possibilities, good, bad, or evil, and presents them as plausible alternatives.

It provides the countdown to primary ignition.

Recommended reading:

Joseph J. Corn and Brian Horrigan, *Yesterday's Tomorrows: Past Visions of the American Future*. Johns Hopkins University Press, 1996; trade paperback. A study of futurist visions during the 20th century.

David G. Hartwell and Milton T. Wolf, editors, *Visions of Wonder*. Tor, 1996, trade paperback. A scholarly anthology of recent science fiction.

Jules Verne, *Paris in the 20th Century*. Random House, 1996, hardcover. Verne's "lost novel" from 1863, recently discovered and translated.





ORGAN
PHONE

BILLY'S
BACK!

W.B./Dough

Cynthia Ward's fiction has appeared in *Asimov's*, *Tomorrow*, *Galaxy*, and several anthologies as well as numerous small-press publications. This is her first appearance in *Absolute Magnitude*.

I Was There when They Made the Video

by Cynthia Ward

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Carnival's video is really live. The musicians really played their instruments. The cops really came. The Beautiful People really started the riot. I know. I was there when they made the video.

I learned about the video shoot when Neil phoned me from his car. "Randy, we're going to a concert."

"What band?" I said. "Which net?"

"I don't know what band," Neil said, "but I know it's not performing in VR. It's appearing in the flesh, in a Sacto club."

"Live in Sacramento? Right. Is Jesus Christ returning to introduce the band?"

"The band's from Sacto, Randy. Sometimes a band plays a live show when it makes a video, you know."

"Live?" I said. "Hardly ever. Too expensive. Anyway, most bands are just software."

"This band's flesh," Neil said, "and it's playing at Club Trode tonight. I scored tickets. We're going."

Live concerts were dangerous; the insurance costs had stopped bands from touring when Neil and I were babies. "I bet this 'live concert' is just another rave revival," I said. "Club Trode's a jackdaw club, all we'll see's a DJ playing remixes. If we see anything. Didn't that club close last year?"

"Yeah, but the space is still empty, so the concert organizers are 'liberating' it for the night. It'll be *edge*."

"Yeah," I said. "But I can't go. I'm working."

"The Southwind Mall databases can't be left alone for one night?" I had the vidscreen off, but I could tell Neil was pissed. "You work at home, you take classes at home—you spend all your time in your room!"

"I do not!"

"Take the night off. Ya gotta go to the concert. Only the in-the-know will be there!"

"Will the Immortals be there?"

"Don't know. Don't care."

"I don't want to be anywhere near the walking dead."

"What?" Neil said. "They died, but they're not dead. Christ, even the law says they're alive."

"They bought the law. They're *robots*, Neil."

"They're not robots. Shit, I want my brain downloaded when I die!"

"I can't go," I said. "Bye."

"Don't you fucking hang up on me! We wanted to see a live concert since we were kids. You're going if I gotta drag you out of your damn room!" Neil's voice changed. "Okay, maybe the show's a ripoff. But if you don't go, Randy, and there is a concert, you will hate yourself forever."

Mom had gone to live concerts before she met Dad, and she'd said they were like nothing in the world. She swore VR concerts didn't compare to live shows, even though in VR you never have to worry

about the view or the sound quality. How could live shows be so great if people got killed? Mom said violence at concerts was rare, and she never lied to me. And the way she talked about live concerts always made me sad I'd never see one. Now that I had the chance, I couldn't miss it.

"Okay, Neil." I heard my voice shaking and took a deep breath. "I'll go."

"All right!"

I clicked off and peeled off my hotsuit. When Neil called I'd been about to visit DreamNet. Just a break from my courses and my job. I laid the headmount, gloves, and suit on the bed. When was the last time I'd taken my VR suit off? The sleeves were too short and the body too tight. Time to order a new one.

I took a quick shower and shaved. My stubble was longer than I'd thought. And my hair. Great crasher tangles, though.

I tore up my room looking for clean clothes. My room was small, filled by the bed and entertainment center, but it had everything I needed. And my father never came in here. I never gave him reason to; I got good grades on the EduNet courses and I kept the Southwind net speedy and secure. He wasn't home much, anyway, since he was director of the 24-hour Southwind Mall.

Dad kept telling me to take time off, but he wouldn't give me the night off on ten minutes' notice. But I couldn't miss a live concert. He'd never know if I skipped a night.

I wished Mom were here so I could ask her about concerts. She'd died in a maglev accident last year, when I was fifteen. It was so sudden. So random. I believed in God, I knew the soul survived the body, I knew my mother wasn't gone—but I couldn't understand the moment of transition. How could someone so alive stop being alive? But people die every day. Mom died. Dad would die. I could die at any time.

I found some black jeans with ripped-out knees, but didn't find a cool T-shirt before I saw a red blur on the security monitor, Neil's Saturn Sunburst speeding up to the condo-complex gate. Neil was an impatient guy. I wanted to wear a crash band T-shirt, but I put on the first clean one I found, a T-shirt of the natch band Organophone. I didn't like acoustic music, but I liked natch beliefs. The natches knew the importance of the flesh and the spirit. They knew Immortals were just programs.

I locked my room, locked the condo. Outside the gate, Neil's Sunburst sat, rumbling quietly, but still much louder than an electric car. The security robot watched the Saturn with one lens, not knowing or caring about classic automobiles.

Neil wanted to be a robot. How could he think Immortals were human?

"What the hell are you waiting for?" he yelled. "Get in!"

I got in. The dashboard computer was dark. Drivers were supposed to keep their systems slaved to the navnet, but I didn't know anyone

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who did except me. Everybody thinks they drive better than a computer, but auto wrecks happen a lot more often than maglev accidents.

The two-seat Sunburst had more room than you'd expect if you didn't know anything about gas-burners, but I felt crowded; Neil seemed to fill more space than he occupied. He was wearing a crasher's black leather over a V-shirt playing a jack-dance video. Mister Irony. A coil of barbed wire pierced his left eyebrow. Two new scars decorated his face, raw-looking slashes on his cheeks. His dyed hair rose above his head and lay on his shoulders like a nest of black snakes, and mirror shards glinted in the tangles. He dropped a soy-blotted Burma House bag in my lap and I realized I was hungry. He showed an open wine bottle in my hand. It was half empty.

"Let me drive, Neil."

The combustion engine got even louder as Neil backed up too fast. "You're always demanding the wheel. You want to drive, buy your own damn car."

His father bought him the Sunburst. His father bought him whatever he wanted. "You know I can't afford a car."

"You could if you didn't waste your cred on virtual sex every day, you wanker."

I flushed so hot my face hurt. Neil wouldn't let me forget that girl who tried to pick me up when he hauled me to Tower last month. He'd insisted we go buy the new Midair Collision CD, even though it would've been cheaper to download the music from MVR, and this girl at the store started chattering at me. I frosted her and she finally got the hint and flaked. Did she really think I'd jag someone I didn't know? God knows what I'd catch. Sure, people with AIDS live full, productive lives, but what if the virus mutated and couldn't be treated? Only a fool would risk that. But Neil harassed me for not leaving with the girl. I asked him why I should want her when I could make love to perfect women in virtual reality. I never told him I went on DreamNet every day. How'd he know? I never should've said a word.

"You're so pure, Neil," I said. "Into the music scenarios, pretending you're the star."

"First week I got my first hotsuit, yeah, I played all my favorite guitarists. But air guitar's boring, even in VR. It's not the same as playing a real guitar, even if you can't play worth shit. I'm-A-Star VR is a fucking fake. Jagging a construct isn't real either."

I didn't like alcohol, but I needed a drink. I tilted the bottle. Neil floored the accelerator and the engine roared, slamming me back in the seat. I choked and spilled wine on my T-shirt. Neil laughed. I saw a tiny gold cross swinging in his mouth. He'd pierced his tongue. I dropped the Burma House bag on the floor. I wasn't hungry any more.

The bottle had a pastel label, a mountain peak all misty and arty behind a Famous Name. Stolen from his Dad's cellar. I shook it. Almost empty. "What a waste."

"It's white wine," Neil said. "It'll dry."

I thought about pouring the rest on his head. But he'd probably kick me out of his car. No maglev station here, and anyway I didn't ride the maglev; I'd have to walk home. I might get killed. Drive-by's were pretty rare, but that didn't mean it wouldn't happen.

Neil grabbed the bottle and finished the wine. He dropped the bottle on my boot and turned on the stereo. A guitar screamed like sheet metal tearing. I recognized a solo from Midair Collision's new *Nocturnal Commissions* CD. Midair Collision was the best crash

band, and crash was the only music that mattered. What would we hear at the concert?

The public garage at UC-Sacramento was patrolled by security 'bots, but when we got out of the car, Neil threw the empty bottle. It fell short of the wall and shattered on the incline. Green shrapnel sprayed a bunch of cars. Big pieces stuck up from the concrete like glass knives.

"Jesus, Neil! Why'd you do that?"

"Christ, Randy. We're going to a concert."

When they threw bottles in ancient concert videos, it always led to violence. Bad sign. I stopped walking.

Neil stuck a ticket in my hand. It bore only a date, a time, and the words "Club Trode." No clue of who was playing.

"Hey," Neil said, "don't stand there staring."

I followed him to the elevator. It was empty. When the door closed, I got out my wallet. "How many presidents?"

"You don't owe anything," Neil said.

"Yeah I do. Concert tickets, dinner—"

"You didn't eat. Put your wallet away or give the ticket back."

The elevator door opened. Neil strode out. I slipped my wallet in my pocket before I followed him. University Avenue swarmed with students in T-shirts and V-shirts. As we started up Boxer Avenue, I saw a group of street people in dirty paper clothes. Surely there hadn't been this many when I used to go to the stores near campus. I moved closer to Neil.

Neil stopped. "Shit!"

I saw a long line, longer than a block. A Rent-A-Robot security model paced the line, stomping up the street and turning its head to track a passing car. One lens. This robot was a bottom-of-the-line model. It wouldn't have teargas or lasers. It couldn't do a thing to stop a riot.

Mom had said riots were rare, but sure as summer drought there'd be a riot if the concert was a scam. Even if it wasn't, a riot could still happen, with this mix: Anglos and Afros and Chicanos and AsiAns, straights and gays, genderbenders, steroid-swollen jocks in rival colors, grinds in the T-shirts of corporate competitors. Since the band was a mystery, there were fans of every kind of music from country and natch to zap and crash. And there were a lot of chromes. Immortal-wannabes. They creeped me. They replaced their limbs and organs with artificial parts, as if they could become Immortal piece by piece.

At least no Immortals were here.

"Neil!" The voice sounded familiar, but I couldn't place it until I saw Jeff Stark at the end of the line. I hadn't seen him since I stopped attending high school in the flesh. Stark had his arm around Lanie, a girl he hadn't even liked last year, a jack-dance fan "Randy?" he said. "Jesus, I haven't seen you in ages! How you been?"

"Busy," I said.

Two Immortal-wannabes got in line behind us. They were naked except for black leather jockstraps and boots, showing off muscles and modifications. One chrome had a steel skull-plate and steel hands; the other had shiny studs set everywhere in his exposed flesh and a long, up-pointed chrome arrow on the front of his jock. Chromedick and Steelhand didn't look at us. They just stared into space with artificial eyes like ball bearings.

The line moved so slow my shirt dried, and the line just kept getting longer. Only the in-the-know knew about the show? That must be half the people in Sacramento.

I Was There when They Made the Video

Almost everybody who passed us said "hi" to Neil, and a lot of people greeted Lanie and Stark. How'd they know all these people? I didn't recognize anyone.

A couple of girls, a short Nordic and a tall Indian, dressed like Lanie in bright jack-dance colors, stopped to talk to her.

The Nordic said, "You got here early."

The line stretched out of sight behind us. In the other direction, Club Trode was only a couple dozen bodies away.

"The security 'bot's not around," Lanie said. "Get in line, quick!"

The chromes would crush our skulls for letting people cut in front of them. I glared at Lanie's friends, but they didn't see my warning. The blonde stood next to Neil, the Indian stood next to me. I stepped away from her and banged my shoulder against a brick wall.

Steelhand and Chromedick kept staring into space, like flesh was beneath their notice.

"You've met Jeff Stark, right?" Lanie asked. Her friends nodded. "This is Neil Burns, and this is Randy Hernandez. Guys, this is Isabel Nielsen, and this is Jessica Chaturvedi."

Isabel looked like the most popular style of Dreamlover, full body, long blonde hair. The color seemed natural; no metallic glitter. Jessica was tall for a girl—her head reached my shoulder—and she was so slight I thought that if I pushed her out of line, she'd snap in two. Her thin brown face looked as delicate as a china teacup next to her friend's broad colorless face, and her curly shoulder-length hair gleamed like black ink in the sunset.

"How's UC-Sacto treating you guys?" Lanie asked.

Isabel shrugged. "Okay, I guess."

Jessica laughed. "I'm too busy to know."

UC-Sacto offered courses on EduNet, but a lot of people attended college in the flesh because they thought it guaranteed them a great job. I knew of a couple of people at the Southwind Mall who'd graduated from non-NET colleges; one sold software and the other sold wallscreens. I didn't need a college degree to keep my job, and I would never leave my job.

I looked around. I saw a lot of chromes.

"Waiting for a friend, Randy?" Jessica asked.

"No," Neil said. "He's watching out for *Immortals*. They freak him. He thinks they're dead."

"They don't *freak* me," I said. "They're just robots."

"Having an artificial body doesn't mean you're dead," Neil said. "Is someone with an artificial heart dead?"

"Randy, you think the Immortals are dead?" Jessica asked.

"They're robots with the memories of dead rich people," I said. "You're weird, Randy," Stark said.

"No, he's not," Jessica said. "A lot of people think the Beautiful People are dead. My father does. He says the soul doesn't reincarnate in a metal body."

I stared at her. "You know they're dead!"

"I don't know," Jessica said. "I don't believe there's such a thing as the soul. If there's no soul, what's the difference between a mind in flesh and a mind in software?"

I wouldn't have been more surprised if she'd punched me. "The soul exists!" I said. "Would you become an Immortal?"

"No," Jessica said. Thank God, somebody else didn't want to be a robot. "I think there comes a time when the body and mind should rest."

I'd never heard anything so weird. How could she not want to go on living? Why would anyone want consciousness to end?

"Christ," Neil said. "You guys are putting me to sleep."

"Hey," Jessica said, "does anybody know what band is playing tonight?"

Neil shrugged.

"It Neil doesn't know, nobody does," Stark said. He grinned at Lanie. "Damn, I hope this show isn't jack-dance shit!"

Lanie punched Stark's shoulder. He smiled, and they kissed. I looked away.

"I've never seen a band in the flesh before," Jessica said, as if the rest of us had. "I don't quite know what to expect."

It's like nothing in the world, my mother said. But I didn't know what the difference was, so I didn't say anything.

"The band's real," Neil said. "That's all I need to know."

"Yes," Jessica said. "Maybe it's a crash band."

"You *like* crash?" I said. Girls who dressed in jack-dance fashions didn't like crash. Crashers wore scars and tattoos and leather and scrap metal. But I didn't scar or pierce or tattoo myself, and I was wearing a natch T-shirt.

"I like Red Smear and the Soft Targets and Static," Jessica said, "but Midair Collision is the best. I have all their CDs. Do you like crash, Randy?"

Neil said, "Go through the damn door, Randy!"

I hadn't noticed I'd reached Club Trode. I looked through the door. Too dark to see anything. What was inside?

Neil pushed me in. Hands grabbed me. I stiffened, then realized a bouncer was frisking me. The sound system pounded me with a jack-dance track, a monotonous machine beat thumping under swooshing synthesizers and a soulless vocal. My eyes adjusted to the dim lights and I saw a dance floor too packed for dancing, but I didn't see a security robot inside the club.

The bouncer took our tickets, scanned our IDs, and rubberstamped a bottle on Neil's hand. Neil winked at me and headed for the bar. He was sixteen, same as me; he'd gotten his ID chip altered even though he could go to jail for it.

Jessica broke into a smile and pointed. "Look!"

"Damn!" Stark said. "Sharpest edge!"

Within the shifting images of a zap-music holovid, stacks of speakers rose from a stage to the ceiling. I didn't see a DJ's booth. I saw synths and guitars. Real instruments. The speakers were amplifiers. Sudden energy buzzed me like electricity. Maybe there really would be a concert.

"I can't see a thing," Lanie said. "Let's get closer."

We pushed forward, aiming for the front of the club. In VR I always opted not to feel the audience, but I couldn't ignore the crowd here. I choked on tobacco and marijuana smoke, perfume and cologne, and the sharp stink of sweat. Everybody was screaming to be heard over the sound system and everybody else, and I couldn't hear myself think. My sight got blurry; I couldn't see the stage any more. The crowd looked endless. It squeezed me like the moving walls of a VR adventure game, and I remembered the stories I'd heard about people getting crushed and trampled to death at live concerts. I couldn't breathe. I was dizzy, my mind spinning in my skull; I was going to fall into myself and vanish if I didn't get out of here!

I walked into the wall. Stark and Lanie burst into laughter.

"Randy?" Jessica's voice. "Are you all right?"

"I'm fine." I leaned against the wall, resting my brow on fluorescent-orange cement. It felt rough and cold as a Sierra Nevada road. The wall was solid as a mountain.

Lanie stopped laughing. "Get moving, Randy."

Absolute Magnitude

I turned around, putting my back to the wall. The crowd had knocked us off course. We were only a few yards from the door, but I said, "This is a good spot."

"Are you kidding?" Lanie said. "We're nowhere near the stage!"

"We're near the bar." I heard myself gasping for air and tried to breathe normally. "Neil can find us here."

"You're so tall, Neil would see us anywhere," Stark said, but he leaned against the wall next to me. Lanie looked pissed, but she let him put his arms around her.

Jessica shouted over the noise. "Randy, you never told me if you like crash! Have you ever heard Midair Collision?"

"My favorite band."

"Really?" Jessica said. "I—"

"You guys didn't get far." Neil was beside me, giving me a funny look. He was carrying a tall plastic cup. I realized I hadn't seen any bottles. I breathed a little easier.

"Whiskey," Neil said, and passed around the cup. Stark, Lanie, and Isabel drank. Jessica and I didn't. Neil said, "Randy and Jessica are total puppydicks."

"I am." Jessica laughed. "One beer and I'm fried! I want to remember the concert, Neil."

Stark said, "A swivelhead."

I almost looked around, but that would've been uncool.

Neil laughed and put his arm around Isabel. "Didn't I tell you, Randy?" he said. "This really is a live video shoot!"

The cameraman got in our faces and panned us. His microcam looked like a telephoto attachment jammed into his eye socket. Thought he was edge, but it was just too flash. The lens spun, adjusting to every twist and twitch of his head. We all ignored the swivelhead except Lanie, who waved and giggled. He stared at the girls' breasts like he'd never seen anything like them. When he looked up, Stark flipped him off.

The lights and the jack-dance track died. The blackness filled with screams and shouts and whistles. Cigarettes glowed like the eyes of night animals hunting.

An amplified voice cut through the noise. "Brothers and sisters, make some noise for . . . *Carnival!*"

No one knew the name—Carnival didn't have a video or scenario—but the crowd cheered like a big superstar had been announced.

The crowd's noise disappeared into music like cigarette smoke into fog. The guitar ripped my ears with its harsh grind, the bass groaned like the voice of an earthquake, and the syndrums rang like bridge-suspension cables under steel mallets, making crash abrasive enough to shred concrete.

The music was as loud as I cranked the volume in VR, but after only a few seconds I knew would never mistake live music for anything virtual or prerecorded. It had a quality I had never heard before, a power I had never experienced. It shook me and everyone around me, swaying us with the engine of the rhythm. It squeezed my head like a vice, pulverized my eardrums like jackhammers, shook my body so hard I thought my bones would splinter. The force only increased, and I couldn't bear it another moment, but I never wanted it to stop.

My mother was right. Nothing compared to a live concert. Nothing had ever made me feel so alive, and I screamed with the rest of the crowd.

The singer screamed over the music. "I stuck a needle in my eye/ To feel something before I die!"

A spotlight revealed the singer, stalking the stage and howling into the mike. His long dark hair flew around his head, shards of mirror and scraps of metal flashing in the tangles. He had the tall, skinny, classic lead-singer body, and would've been androgynously handsome if acid hadn't melted half his face and taken one eye, leaving a pit hidden by a scarred, drooping lid.

When the singer fell silent, all the stagelights burst on, bathing the band in white brighter than the sun on Arctic ice. The musicians didn't look any older than me. The drummer walloped the syndrums, sweat flying off her hyperbuff arms and gleaming on her black skin. The bass player, like the singer, had moonbather's skin. His hair was moussed up in a blue dewtawing stiff and shiny as plastic. The guitarist's long black dreadlocks flew around her bony brown shoulders as she twisted and contorted through her solo, wrenching out notes like rusty nails.

The bright lights revealed a mosh pit at the base of the stage. It was just like the old videos: dancers slammed, thrashing to the music, and kids crawled up on the stage and dived back into the crowd. One diver fell to the ground before the people she'd landed on could set her on her feet. A dancer's elbow caught someone else's face; blood erupted from the smashed nose. I took a step toward the pit, and stopped. What was I doing? I didn't—I *couldn't*—want to plunge into that chaos!

Neil grabbed Isabel's hand and they headed for the pit. Stark and Lanie kissed and rubbed against each other as if they were listening to some lame ballad. Jessica stood in front of me, facing the stage and dancing as if Carnival played jack-dance, her body swaying smoothly, her arms moving as if shaping the sound. I could hardly see the band because her arms kept waving in my face and making me look at her. Her hip bumped my thigh. She was too close.

She turned and looked right at me. "Randy! Want to dance?"

The vocalist howled, roaring back into the song, and I looked up. Two muscle-bound chromes threw themselves into the pit and knocked a bunch of slambancers off their feet. The chromes threw out their elbows like fighters, deliberately striking people in the face and chest. They pistoned their limbs in stiff, jerky movements, as if they were imitating robots. Didn't they realize no Immortal ever moved like a robot?

The security robot came into the club, but it didn't make a move toward the pit. It just stood by the exit. Primitive. Its programming couldn't distinguish violence from slambancing.

A dozen crashers and retro-thrashers threw the chromes out of the pit. A steel fist shook an empty threat, flashing white in the stagefight, and I recognized Steelhand and Chromedick. They strode stiffly away from the stage. I hoped they weren't heading for the bar; they'd walk right past us.

I looked at the security robot again, and saw the last thing I wanted to see. The walking dead. Only a few yards away. Moving through the crowd as if they belonged here. Coming closer.

None of the Immortals resembled an animal, or a machine, or an abstract sculpture; all three had human shapes, in keeping with the latest body style. They wore silk wraps, as if robot bodies had need of modesty. They towered over the crowd, several inches taller than my six-foot-five, but they didn't have my lankiness or Jessica's slightness; they were perfectly proportioned. The surfaces of their bodies, like the movements of their limbs, were seamless, flawless; every piece of metal had been cast by the finest artisans of the orbital workshops. Two were shaped like women, one like a man. The man-body was molded to resemble steroid-pumped flesh, and most of the visible

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surfaces were glazed; internal illumination made the shoulders shine emerald green and the limbs glow banker's-lamp green. One bright arm lay across the shoulders of the blue-marbled metal woman with a Dreamlover's shape. The third Immortal gleamed in the bar-lights and the backwash of stagelight; she was made of gold, but it didn't look garish. Her body was shaped like the statues I'd walked among in a history VR of Ancient Greece. Her long hair looked fine as human hair, but the gold strands gleamed the way dyed human hair never could.

I looked around to see if other people were pissed about the Immortals invading the concert, but nobody else was even looking at them except the chromes, and they looked about to cream their jocks. Of course, chromes were warped about Immortals. But why didn't anybody else care that Immortals had invaded the club?

I jumped as a new song started. Beautiful People couldn't feel music. So why were they here?

The golden girl's optics met my eyes. Her optics looked like human eyes with golden irises, and her face wore an expression of curiosity; for a second it felt like I was looking into a real person's eyes. That creeped me so bad I almost looked away. But I wouldn't look away, even when she stopped right in front of me.

I wasn't afraid of a robot.

"Don't you like the music?" the golden girl asked. I wouldn't have known her voice was synthesized if I'd heard it over a vidless phone. I could hear her clearly over the music, but she didn't sound like she was shouting. Some sort of robotic amplification.

Why had this rachibitch chosen *me* to alleviate her Immortal boredom? I didn't answer her. Maybe she'd go away.

Her companions looked me over as she spoke again, louder, but still not shouting. "Don't you like the concert?"

Obviously, if I didn't say something, she'd never go away. "Sharpest edge," I said. I didn't shout. I hoped she wouldn't hear me, but no doubt her audio receptors were as good as her voice emulation. "The music smashes me like a sledgehammer," I said. If she could hear me, she wouldn't understand how I felt; maybe that would drive her off. "It's bliss."

"That's exactly what it feels like!" she said in a surprised tone. A robot couldn't feel the music—a robot couldn't *feel*. She must have the memories of some old woman who remembered the last arena shows. Or some old man. Bodies were just clothes to the walking dead. Fashion statements. "We feel the same way," she said, and laid her hand on my stomach like she was trying to feel what I felt. "I didn't know if the sensations would be the same in flesh!"

"Don't you remember?" I asked. Had senility damaged her memory before the download?

"What would I remember?" she asked. "I've never been to a live concert. I'm fifteen years old."

"Fifteen?" I said. "You can't be fifteen!"

"I had leukemia. No matching donor. My body rejected the artificial marrow."

"Jesus." She'd died horribly, and far too young, and her parents had had her brain scraped out of her skull so they could dump her memories in a robot and pretend she wasn't dead.

Had the software captured the moment of transition, the moment a living person stops living? Surely it couldn't have. The living person was gone.

The golden girl said, "I left my original body too soon."

She leaned closer. Her breasts touched my chest, a warm, yielding pressure. Synthetic flesh. When a Dreamlover touched my virtual

body, electronic signals to my hotsuit convinced me of the construct's solidity; the golden girl felt just as solid. I shuddered with disgust. A robot should be cold hard metal; it shouldn't feel like a Dreamlover. Why didn't it feel different?

She smiled. "Show me the pleasures of the flesh."

"Don't touch me!" I pushed the golden girl with both hands. It was like pushing a wall.

She pressed her lips against mine.

I had never been kissed before, except perhaps by my parents when I was very small; I'd certainly never asked a construct to kiss me. The golden girl's lips were warm, smooth as glass, surprisingly soft; but they forced my mouth open. A moist synthflesh tongue invaded my mouth and I tasted copper and iron.

I twisted my head aside and snapped my teeth shut. I wanted to spit. The golden girl pushed closer, synthflesh breasts flattening against my chest, metal torso grinding my ribs, metal leg pushing between my legs. She closed her synthflesh fingers on my chin and turned my head as easily as a new-born baby's, wrenching my neck, making me look at her.

"Leave him alone!" Jessica shouted, pulling uselessly on the metal arm.

"Let me go!" I braced a boot against the wall and kicked off, trying to knock the golden girl over. She didn't even sway.

"Oh, stop bothering the boy," said the blue-marbled metal woman. Her voice was as clear as the golden girl's. "I remember the pleasures of the flesh." The full, perfect, turquoise lips smiled. "Flesh is weak."

The green-glazed man kissed the blue-marbled woman.

"I'll find out for myself," the golden girl said.

"No!" I said. "I don't care if you walk and talk and fuck like a human being, you're *dead!* I won't fuck a corpse!"

"A corpse?" the golden girl said. All three Immortals burst into laughter.

"You only think you're alive," I said. "You're just a robot with a program that makes it think it's a person."

"A program?" The golden girl put her hand on my throat. "Do you want to be a corpse?"

Her fingers tightened, pressure like an iron bar against my windpipe. She could easily kill me. I'd really pissed her off. No, I'd tripped the software's anger-emulation mode. With the same effect as the real emotion: the fingers cut off my air.

I'd always heard that when you're going to die, your life flashes before your eyes. But I didn't see anything. Just the golden face looking coolly at me.

I felt calm. I wasn't afraid any more. I no longer cared if I died. I would die before I let the dead rape me.

The golden girl released my throat and stepped back. I gasped for air. I would have fallen, I was so surprised she hadn't killed me, except she put her hand on my chest.

"You're so sure I'm a program," she said. "How do you know what I am, mortal? How *can* you know?"

How could I know? How could anyone made of flesh really know? What if I was wrong? What if she really was a person alive in a metal body? If my family were rich, we could afford downloading, and my mother would still be alive. She would still be with my father and me. I would go home and tell her about the concert—or she would be at the concert.

If Immortals were alive, a person could live forever. I could live forever. I could live *forever!*

Absolute Magnitude

No. Only the rich could live forever. Not someone like me. Not someone like my mother.

My throat hurt as if the metal fingers were still crushing it; I could hardly talk. "Do you remember dying?" I asked.

"No," the golden girl said. "I remember lying in the hospital, hooked up to a bunch of machines, and I remember waking up in a new body, but I don't remember dying."

If she didn't remember dying, her soul had left her body. Whatever experiences the moment of transition, the passage from life to death, was gone. The soul was gone. She was gone. Dead. No one lives forever. Immortals weren't people with metal bodies. The rich bought only the illusion of immortality. They were gone from the world, and robots mimed their gestures.

"I know what you are," I said. "A soulless zombie."

Something struck the side of my head so hard my skull slammed into the wall. My knees turned to jelly. Trapped between metal and cement, I couldn't fall, but my vision darkened.

I heard Lanie screaming, Stark cursing, Jessica shouting my name. The darkness faded, a hole widening to reveal two chrome standing beside the golden girl. I recognized them. Chromedick was rubbing a fist, flesh against flesh; he had punched me. The other chrome had laid his steel fingers on the golden shoulder. If Steelhand had punched me, he would've crushed my skull.

"Lady," he shouted, "ignore that shit-dick! I'll jag you 'til you change color!"

A golden hand brushed off the steel hand. "I'm not interested in you, wannabe," the golden robot said without looking at him.

The chromes' faces twisted, and Steelhand glared at me and closed one prosthesis in a fist. Stark punched Steelhand in the stomach. Chromedick shouted and swung at Stark, and the green-glazed Immortal grabbed Chromedick's wrist. Chromedick screamed; the green hand opened and he staggered back. The Immortal had electro-shocked him. A security "bot trick.

"Bastard!" Steelhand swung at Stark's face. Stark brought up his hands, trying to shield his head. Lanie kicked Steelhand in the groin. Steelhand screamed. No steel balls. He fell, his punch flying wild, and his steel fist struck Stark's arm above the elbow. Stark yelled and his arm went limp.

Other chromes surged through the crowd, coming to the defense of their fallen brothers, shoving aside everyone in their way. Some people shoved back, and suddenly there were fights all over the dance floor.

"I think it's time to leave," said the blue-marbled robot, and the three Beautiful People turned and headed for the exit.

Without the golden robot's hand on my chest, I sank down as if I'd been shocked; my knees struck cement so hard I thought they'd cracked like plates. The music came to a ragged stop. I heard screams, and the thud of boots kicking flesh, and the muffled smack of flesh striking flesh. A mechanical voice boomed loud as the syndrums had. "STOP, OR I'LL SIGNAL THE POLICE!"

The sounds of fighting increased. The houselights came on.

"Randy!" Jessica was kneeling beside me. I tried to get up, but my knees hurt too much. She slipped under my arm, tried to raise me. "Lanie! Jeff! Randy's hurt!"

She looked around. I looked around. Stark and Lanie had vanished; they'd run away or been separated from us. A steel-toed boot came down beside my hand, another boot stomped my foot, fists swung above our heads, blood splashed my legs, a woman fell in front of me. Her eyes were looking in mine, but it didn't seem like she

saw me. Then her eyes closed, and her head came down on the cement as hard as my knees had. I grabbed her shoulder—her flesh was soft, warm through the shirt—and shook her. "You better get up!" Her shaven head rolled as if it were a ball attached to her shoulders by a rubber band, and I saw a deep hole in her skull. Some chrome—Steelhand?—had punched her head in. She was dead. She had died as easy as swinging a fist.

This was what death looked like.

"Randy!" Jessica was trying to pull me up. I realized I was screaming. I shut my mouth and got my feet under me. My legs failed, but Jessica kept me upright; I hadn't imagined that skinny body could contain so much strength. "Randy, we've got to get out of here!"

I'd thought the mosh pit was chaos. I was wrong. This was chaos. Whites fought blacks, whites fought whites, blacks fought blacks, jocks punched jocks, kids in paper clothes attacked corporate grinds, crashers fought jack-dancers, chromes pounded anyone who didn't look like them. A horde of people swarmed the stage, smashing guitars and toppling amplifiers. Neil stood atop a stack of amps, blood flowing down his cheek from a reopened scar, head thrown back in laughter.

The lead singer was screaming. "God damn you fuckers! You're destroying everything we own!"

I heard the musical clatter of breaking glass as Jessica turned me toward the exit. Kids stood on the bar and behind it, fighting for bottles, shattering bottles, shattering the mirror.

The security 'bot announced, "I HAVE SIGNALED THE POLICE!"

There must have been over a hundred people struggling to get through the exit. The crowd squeezed me with far more pressure than I'd felt when I'd freaked on the dance floor.

I'd seen hundreds of videos and films of live concerts; few had shown riots. What a way to die.

The door was inches away. Jessica pushed me. I pushed forward. The crowd pushed back. I couldn't breathe. My ribs were breaking. We were through the door.

Sirens howled like mechanical wolves. Blue light splashed in my eyes. Three cop-cars approached from campus; two more were speeding from the other direction. People screamed and ran in both directions.

"Can you run?" Jessica asked. She was breathing like she'd already run a mile.

"I got to!" I said, and we ran for campus. She tried to help me, but it was easier to run with both my arms free. People bumped into us, but we stayed side by side. My heart was pounding so hard I thought my breastbone would break. My head hurt, my legs shook, my knees were bloody wrecks; but I didn't fall.

The three cop-cars roared past us. Five newsnet vans bristling with antennas came right behind.

We were off the street. On campus. But we kept running, pushing through the crowds. We ran all the way to the student union building, and staggered up the steps and inside. The cops wouldn't follow us here.

Jessica smiled, a big smile that was bright as the sun breaking through stormclouds. "We made it!"

We started laughing. It wasn't funny, but we laughed so hard we had to lean on each other's shoulders to keep from falling.

"Next time let's not cut it so close!" I said. Then I realized what I'd said. Next time. I wanted to see Jessica again.

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My expression must have changed, because Jessica's suddenly sobered. She looked at me and I couldn't look away. Her eyes had black depths that the light got lost in, and I thought that if I looked into them a moment longer, I would be lost too. But I didn't want to look away. I wanted to kiss her.

In the movies, when two people are attracted to each other, the moment comes when they should kiss. They stand close, gazing into one another's eyes, one character's face turned up to the other's; they stand on the brink, and you know this is The Moment. Everyone watching the movie knows it. And if one of the characters turns away, doesn't see what is so clearly meant to be, you feel a physical pain, like you're tearing open inside.

It's easy to see what characters should do in a movie, but I wasn't in a movie. How could I be in that situation? Just because I wanted to kiss Jessica didn't mean she wanted me to kiss her. Why should she? She didn't know me. She was going to say goodbye and go see if her friend Isabel was okay. She wasn't wasting time thinking irrelevant thoughts. She'd slap me if I tried to kiss her. I took my arms off her shoulders and stepped back. Time to go.

I saw my room. Piles of dirty clothes, a bed, a stereo, a computer, a hotsuit. I saw my life as I had been living it in the year since my mother's death; I saw the years stretching ahead of me, years and decades of life in a barren room, a hotsuit my only companion.

I kissed Jessica.

Her lips were warm, soft but firm; the lower lip was rough. She returned my kiss, and closed her hands on my shoulders.

I was running out of air. I didn't know what to do, and I felt stupid, but I needed to breathe, so I raised my head.

Jessica didn't take her hands off my shoulders. She opened her eyes. She smiled, and I felt warmth spread through my body from the center of my chest. "Shy man," she said. "I thought I was going to have to kiss you."

My face burned with embarrassment. "I've never kissed anyone before."

She looked astonished. I looked down, waiting for her to laugh.

"The first time someone kissed me," she said, "I was so scared I was rigid. Later the boy told me it was like kissing a plastic knife."

Her arms went around me, and she kissed me. I felt her small breasts, her thin body, her long legs, and everywhere she touched me, my skin tingled and shivered as if she were charged with electricity. I put my arms around her, drew her closer. Her body was strong, not the delicate twig I had thought, and nothing like a construct's soft flesh. I felt my heart beating, and I felt hers too. I slipped my fingers into her hair, the sleek strands sliding between my fingers until a tangle of curls caught my hand. Everything felt like nothing I'd ever felt before. I opened my eyes, and her eyes were looking into mine. How had I ever believed a construct, a software illusion, was all I needed?

Eventually, too soon, she pulled away from me.

"I have to see if Isabel got back to our room," she said.

"I have to see if Neil got back to his car," I said. But I couldn't keep my mind on Neil. I had something I had to ask Jessica, even though I was afraid of what she would say. But if I didn't ask, it would definitely never happen. "Jessica, can I see you again?"

"Randy, I expect you to see me again," she said. "Call me." She gave me her phone number. I gave her mine. We kissed. Then she turned away, ran out of the union.

I hung around Neil's car for almost an hour, repeating Jessica's phone number in my mind, burning it into my memory. I stayed in the

garage until the security 'bots threw me out, though it had long ago become clear that Neil had been busted.

I caught the maglev home. It wasn't until I got off that I realized it was the first time I'd ridden the maglev since my mother died.

My father was home, sitting in front of the wallscreen, no windows up, the whole screen displaying the riot. The best seat in the house. Since I never left my room, he hadn't realized I wasn't home until I came through the outside door. The moment he saw my black eye and bloody jeans, he knew where I'd been. He was glad I was all right, but since I'd skipped work, he docked me a day's pay and had PacBell shut off access to the DreamNet line for a month. A day ago, I would've gone right into withdrawal. But I didn't miss VR. I hardly thought about it.

The cops blocked the club door and stopped the riot with truncheons and teargas. Stark and Lanie got away, but the cops busted everyone they trapped inside. Prosecution put away over a hundred people based on the software from five eyecams. Isabel was released, since the swivelheads hadn't recorded her doing anything. In fact, she had done nothing except try to get out of the club.

The software showed Neil destroying amplifiers, but his father got him off. His father hired the best lawyers, and they proved Neil was not himself at the time. Neil was swept away by the music and the crowd, and the alcohol he shouldn't have been allowed to buy. He'd been charged with altering his ID chip as well as destruction of property, but Neil's lawyers made that look like something he was forced to do by bad companions. You're as innocent as you can afford to be.

I haven't seen Neil in a while. When the trial was over, his father put him to work as a clerk at one of his VideoWear Shops. I guess I haven't really wanted to see Neil.

You should definitely watch the Carnival video again, now that you know how the riot started. I don't want to watch it. I've seen it once, and that was enough. The swivelheads didn't catch the start of the riot, but the video shows what the riot was like. It can't show you, though, what it *felt* like to be in the middle of the violence.

At least Carnival got a hit video out of the mess. The video only contained two songs, and the band got sued by almost everybody who was at the concert, but so many people downloaded the video, the band could afford new equipment. And mansions. And lawyers. Even lawyers to fight the no-live-concert law that the state passed after the riot.

I still dream about the concert. I always see the woman who died right in front of me. I always see her die. I can never change it. Nothing can change it. *Nothing*.

I'm attending UC-Sacto now. I'm in the software engineering program, studying memory replication software. I won't find out what the soul is, but I'll find out what it's not. Jessica says I won't learn anything about the soul, because it doesn't exist. We'll be disagreeing about this for the rest of our lives.



Ian Randal Strock had been the Associate Editor of *Analog Science Fiction and Fact* and *Asimov's Science Fiction* magazines for six years when he heard about the Artemis Project and started getting involved. Soon thereafter, the project leadership decided they needed to publish a magazine, looked for an editor, and hired Mr. Strock away from *Analog* and *Asimov's*. He is now in the final stages of setting up the company which will publish *Artemis Magazine*—LAC Publications—of which he is the president. He is also ASI's Director of Publications, TLRCC's Vice President (Publications), and a science fiction author. His web site is: <http://www.tlrc.com/Bios/Strock.Ian.html>

The Artemis Project

by Ian Randal Strock

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We're going back to the Moon!
We're doing it as a commercial venture!
You can come, too!

Those three lines sum up the entire Artemis Project. For a more in-depth look, however, read on.

In Greek mythology, Artemis was the Moon, while her twin brother, Apollo, was the Sun. In current thinking, Apollo was the last manned mission to the Moon, and Artemis will be the next.

The Project is science fiction author and McDonnell Douglas/NASA extravehicular activity (EVA) engineer Gregory Bennett's brain child. He started by asking himself why we hadn't gotten back to the Moon—after all, the USA sent men to the moon a quarter century ago; surely we should have been back since then.

Unfortunately, the government has no reason to return. When President Kennedy tasked us to put a man on the moon before the 1960s were over, he was spurring us on in a race against the USSR. They had placed the first artificial satellite in orbit, and the first man in orbit, and Kennedy knew that the country had to do something grandiose first if we were to maintain our self-image as world leaders. Well, we did it. We built up an entire space program and got men to the moon within the decade.

However, we did it in a manner that was incredibly costly, and that was not as a foundation for further development. Indeed, as the first men were landing on the Moon, the final three planned Apollo flights (Apollo 18, 19, and 20) were being cancelled. We had succeeded: we had placed men on the Moon before the Soviets. Now, there was no need to continue.

And we didn't. The US national space program started looking inward, working on smaller, more utilitarian projects. Things that could withstand the pressures of governmental funding—rebuilding each year to meet the whims of a Congress that had to be reelected every two years, and couldn't wait a decade to show results to their constituents.

NASA, knowing its funding was controlled by an ever-fluctuating body of politicians, restructured itself to survive in that world. The Space Shuttle was built, with political patronage going to many important districts. Unmanned (and thus, cheaper) probes continue to be built and continue to do good science.

But the passion of the 1960s—the national drive to tame a new world—is missing. There is no reason for the government to go back to the Moon (not even the recent discovery of some water-ice at the Moon's south pole should be enough to spur that action): NASA planted the flag and footprints. The government has blazed the trail: now it's time for individuals to use the path.

And that's where the Artemis Project comes in. We remember Heinlein's D. D. Harriman ("The Man Who Sold the Moon") and NASA Administrator Daniel Goldin's comment ("I wish commercial space companies would start acting more commercial!").

The Artemis Project is a group of people who want to go back to the Moon, this time to stay. Our goals, which a government can't express, are, in no particular order:

- ◆ to help humanity expand beyond the confines of one planet
- ◆ to ensure human survival in the event of a planet-wide disaster
- ◆ to make money
- ◆ to have fun

Why the Moon?

We can spur space development using lunar resources to reduce the cost and environmental impact, and increase the speed of our efforts. The Moon is a source of metals for construction and oxygen for fuel and life support. If we plan to build orbital colonies or solar power satellites, the stuff with which we'll build them has to come from somewhere, and launching something, anything, off the Moon will cost about one-tenth what it costs to launch from Earth (the gravity is only one-sixth as strong, and there's no atmosphere to punch through).

Longer-term, the Moon is a source of helium-3 (3He—the light isotope of helium). The 3He-deuterium fusion power reaction is technically feasible, safer than deuterium-tritium, and potentially incredibly valuable. 3He, however, does not exist on Earth, but the Sun has been spewing it out for billions of years, and it's bound up in the surface rocks of the Moon.

We can use the Moon as a test-site for a manned Mars mission. Like Mars, the Moon is a hostile environment with lighter gravity than Earth. Unlike Mars, however, the Moon is only four days from Earth, in case of emergency.

The Artemis Project grew out of a dream Greg Bennett had to get back to the Moon. He discussed it in his author topic on GEnie, and gathered a few others of like mind. They begin planning a commercial mission to the Moon, looking for the "fatal flaw"—the reason it couldn't be done.

Along the way, the Project has been fleshed out, gained workers and supporters, grown, gathered a public following, and, in three years, still hasn't found that fatal flaw. It seems more and more likely that it doesn't exist, and that the only reason we haven't

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gone back is that nobody has yet had sufficient desire and drive to do so.

The overall plan is to fund development of the Moon base through the commercial/entertainment aspects of space flight. It's a deceptively simple, two-pronged concept. First, where the Apollo flights cost nearly \$10 billion each, the first Artemis flight (planned as the reference mission), will cost approximately \$1.42 billion. Second, where the Apollo flights were funded with government/tax money (meaning that everyone contributed, whether they wanted to go to the Moon or not), the Artemis Project is selling itself to, and being funded by, people who are interested in getting to the Moon.

Why will the Artemis reference mission cost so much less?

First, there's no basic research that needs to be done. The entire mission can be flown, successfully, with off-the-shelf technology. When NASA was flying Apollo, they were also inventing the hardware to keep people alive in space and on the Moon. We, as taxpayers, have already paid for all that knowledge—it's there for the using, and we're going to use it.

Second, the Artemis Project is *not* a government project. As much as 90% of the cost of most government projects are the cost of the government political patronage; governmental specifications; convincing the government to maintain the budget—these all increase the cost of accomplishing anything. [As an example, Spacelab and Spacehab are both self-contained laboratories that fly in the space shuttle's payload bay. NASA built Spacelab. A company called Spacehab built Spacehab. The two are nearly identical, yet Spacehab cost approximately 10% what Spacelab cost, because it wasn't a government project.]

Third, the Artemis Project is small. Large corporations require large amounts of overhead. The Lunar Resources Company (about which more later) has directors that are spread across the USA, yet the average LRC board meeting costs about \$60—because we can meet electronically, rather than face-to-face.

So, what's going to happen?

The figuring so far has been on the reference mission: the planned first flight of the Artemis Project. It is used to determine costs, technical feasibility, and political issues.

It will place a crew of 2 to 4 people on the Moon for a period of up to two weeks. It will leave a habitat on the Moon for use by later missions. And it will leave a transportation system in Low Earth Orbit (LEO) for use by later missions.

The Apollo flights carried everything they needed with them, used it once, and threw it away, so that each flight needed the same basic equipment, and couldn't bring many extras.

The Artemis flights will be different, because the second mission will not need to bring an Earth-Moon transportation system into space. It will not need to bring a habitat for the stay on the moon. Instead, this payload ability can be used to bring construction and scientific materials, supplies to extend the lunar base, manufacturing facilities, etc.

The reference mission has been planned using two launches of the space shuttle (there's no reason for the Artemis Project to build its own rocket when so many exist that can be rented—the Artemis Project starts and ends in LEO). The space shuttle has been used because it is the rocket we know most intimately (many of the people working on the Artemis Project in their spare time work for or with NASA during the day), and because it is the most expensive man-rated booster available. If the finances work using the space shuttle, they'll work using any other rocket that may be available. [The Artemis Project views itself also as a driving force for the development of low-cost access to LEO.]

On the first flight, the Lunar Transfer Vehicle (LTV—a space-based tug boat to ferry crew and materials between LEO and lunar orbit), the lunar descent stage and lunar ascent stage, and fuel will be delivered to LEO. The second flight brings up the crew, the lunar habitat module, and more fuel. The planned staging base, where all the components will be integrated, is the International Space Station (ISS). If it is not available, or in the wrong orbit, the space shuttle itself can be used as a staging base, in which case it will remain in orbit during the entire reference mission, and the crew will return to Earth aboard that same shuttle.

In between missions, the LTV can be docked with ISS and used as additional laboratory space, or flown on near-Earth missions.

After launch and integration, the crew will use the LTV to fly the habitat module to the Moon, where they will disconnect from the

LTV, fire the descent stage, and land. Current plans call for the habitat module to be built by Spacehab (based on their design that flies in the space shuttle—a 30-foot-long, 12-foot-wide cylinder with one flattened side). It will land vertically, and then be rotated off the descent stage to a horizontal position.

After a week or two of exploring, setting up experiments, filming scripted scenes and stock footage, and gathering rocks for sale on Earth, the crew will board the ascent stage and fly to lunar orbit to rendezvous with the LTV. This is perhaps the most innovative piece of the whole mission: the ascent stage, rather than being a fully enclosed life support structure (like the Apollo Lunar Excursion Modules), it is an open, rocket-powered hammock. This was the one piece we thought experienced space travellers might balk at, but our astronaut advisors (current and retired) have looked at it, and all have responded "Cool! I want to fly that thing!" Current space suits are rated for eight hours of EVA. The ascent to rendezvous will be a two-hour EVA straight up.

The crew will rendezvous with the LTV (which is pressurized), lash the ascent stage to it (for reuse), and return to LEO, to ISS.

While the crew is returning, we will begin to bury the habitat module with a telerobotic dirt mover. Spacehab claims the habitat module will be robust enough to survive a few lunar days (of two weeks' of sunlight, followed by two weeks' of darkness) of heat and cold extremes, and cosmic radiation. Beyond that, we'll have it buried to keep it at a constant temperature, to block out cosmic/solar radiation, and to protect it from micrometeoroids.

Future expansion of the lunar base will either be through linking other habitat modules, or (our preference) construction in a lava tube. Part of the first crew's explorations will be searching for lava tubes—cylindrical tunnels left by hot flowing lava from the Moon's geologically active period. Geologists believe such tubes exist, and that they may be hundreds of feet wide and perhaps miles long. Rilles (narrow, sinuous lunar valleys) are most probably lava tubes with collapsed roofs.

Base expansion plans include greenhouses (to allow future full-time: lunar crews to grow their own food), metal smelting facilities (to refine the materials needed to expand the lunar base and to build orbital industries), a radio-astronomy observatory on the far side of the Moon, helium-3 extraction, and tourism

The Artemis Project

Current plans call for the first flight in 8 to 10 years; the first tourist flight is scheduled for about 10 years later.

What will a tourist flight cost?

It depends on when you go. Currently, a Japanese consortium is planning to build a fleet of five 50-passenger single-stage-to-orbit rockets that will sell tourists two-day orbital flights for \$10,000. They expect to keep these vessels flying nearly continuously, and to have them paid off within a year or two.

If these ships are flying, it will be a simple operation for us to refuel such a craft in LEO, and fly it to the Moon. A two-week lunar vacation would probably cost \$20,000 on this first generation craft.

OK, so it's going to cost only 15% of an Apollo flight. \$1.42 billion is still a lot of money. Where's it going to come from?

First, we have to remember that what is a lot of money to most individuals is not a lot of money to a government or a large corporation.

NASA's budget, as a percent of the total US federal budget, peaked in the late 1960s (with the Apollo flights) at less than 5%. It's been under 1% since the mid-1970s. In fiscal 1995, NASA's total budget was \$14.1 billion, of which \$1.85 billion was earmarked for ISS. Clearly, the government could fund such a flight, but it most probably won't.

In 1994, the Disney-ABC conglomerate had gross revenues of \$16.5 billion, and a net profit of \$1.8 billion.

In other words, where NASA could have funded the entire first Artemis flight with one year's expenditures on ISS, Disney-ABC could have done the same with one year's net profit.

The power of the entertainment industry has been woefully ignored by space enthusiasts in the past. No longer.

When we started narrowing down "the entertainment industry" into bite-sized gulps, we were amazed to learn that the film "Jurassic Park" had brought in \$400 million in its first year. Then we looked further, and found that "Sonic the Hedgehog," the video game, had done even better.

The entertainment industry, as we view it, contains many facets. We plan to produce films—both fiction and documentary—about the project (including what we expect to be the first live movie footage shot on the Moon), television programs, video games, toys,

books, jewelry, apparel, magazines, candy, collectibles, etc. [A one-carat piece of lunar basalt from the Soviet space program was sold within the last few years for \$60,000. A few pounds of Moon rocks, while lowering the price of each, should bring a tidy sum.]

Long-range profit potential from a lunar community when we look at things like tourism, helium-3, scientific and educational data, and so on, is incredible.

The original plan was to develop many products separately, because most all will require some investment. We thought it would be easier to convince would-be investors to fund products they understood (such as, for instance, a publishing house), rather than asking them to fund a Moon flight and Moon base, neither of which can be in place, or show any profit, for a decade. We still think the smaller investment possibilities will be favored, but there has been a surprising interest in investing directly in the construction of the Moon base. To seek/accept this funding, we are incorporating separate companies (for instance, LRC Publications, which will be the publishing arm of the project) and selling stock in them. When the time comes, we may also incorporate the space flight division and sell stock in it. But at every level, investors will be able to invest in industries they know, which can succeed whether or not the whole project does.

Our anticipated revenues, through completion of the reference mission, are about \$1.8 billion.

What's the Artemis Project up to now?

We've completed preliminary investigations. Though nothing is set in stone until it must be, we know what the LTV and habitat module will look like, and we think we know where first landing will be.

We're researching everything we'll need to know to live, long-term, on the Moon.

We've been pleasantly surprised to find no major political or legal roadblocks to the plan, but we keep looking.

We've incorporated a few subsidiary companies and should, by the time this article sees print, be selling stock in at least one of them.

We've licensed the Artemis Project logo to a number of companies, who are producing and selling goods that both publicize and fund the project.

We're looking (constantly) for more volunteers.

How does one get involved?
There are a number of ways.

The Artemis Project is divided into two major areas: Artemis Society International (ASI) and The Lunar Resources Company (TLRC).

ASI is a not-for-profit scientific and educational institution. Its members are engaging in research projects to discover everything we'll need to know to build, get to, and live in a lunar base (rocket scientists will probably account for only 5% of everything we need to know). They are responsible for nearly all of the Artemis Data Book (our online reference work) which is accessible at <http://www.asi.org/adb>.

Membership in ASI is \$35 per year, and includes our monthly newsletter, *Pleiades*, as well as other benefits. The address is: Artemis Society International, PO Box 4878, Huntsville, AL 35815. The society can also be reached electronically at artemis@asi.org or through the web site at <http://www.asi.org>.

TLRC is the commercial side of the Artemis Project. TLRC is creating businesses and products for sale in order to fund the actual flight and construction. If you're interested in investing in a piece of the project, or if you think your company might like to license the name/logo or become an affiliate of the Project, the address is: The Lunar Resources Company, PO Box 590213, Houston, TX 77259-0213. TLRC can also be reached electronically through the web site at <http://www.tlrc.com>.

We're going! Wanna come?

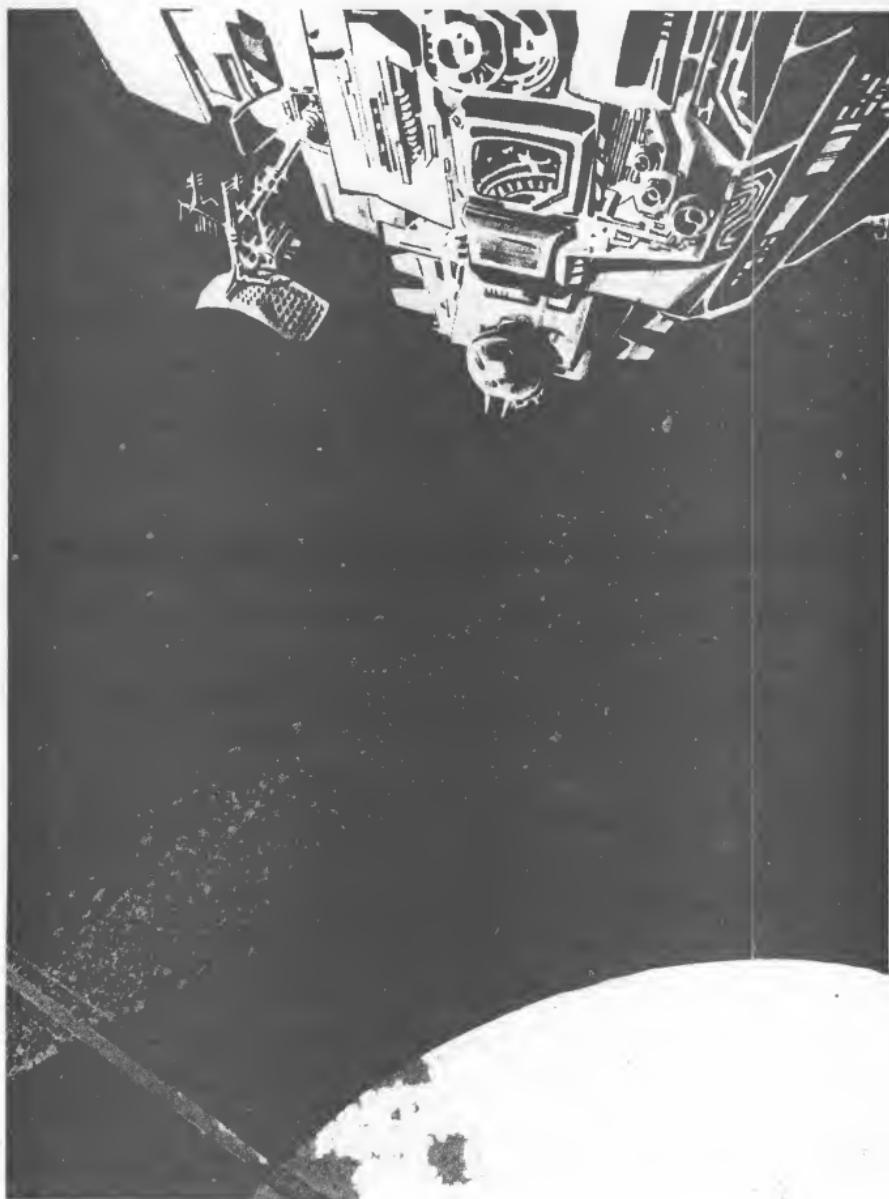


Yes! I want to go to the moon!
Please keep me informed of
investment opportunities as they
arise and progress as it occurs.

Name: _____

Address: _____

Mail to: Ian Randal Strock, Editor,
Artemis Magazine, 1380 East 17 Street,
Suite 201, Brooklyn NY 11230



Alan Dean Foster is a *New York Times* best-selling author. He has a bachelor's degree in political science and master's degree of fine arts in motion pictures. He sold his first story in 1968 to *August Derleth*. Alan will have a media column in **Absolute Magnitude** beginning with the next issue.

Undying Iron

by Alan Dean Foster

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Ory was frightened. She'd been frightened like this only twice before: once when a silimac had torn its way through Corridor Eighty-Eight barely missing her but killing twenty of the Flatt family, and once when Jom Thunder had consumed something unwholesome and had gone into convulsions that had lasted nearly a whole week.

But this was different. Perceiving no threat to her person, she did not fear bodily harm. This new fear rose from the depths of herself, as if she was being poisoned by her own mind. It was new and incomprehensible, this irrational fear that something awful was about to happen.

She was terrified.

Drifting aimlessly down Twenty-Four Tunnel, she gazed vacuously at the pale haze that clung to the inner lining and wondered what to do next. Fear had given rise to a throbbing in her brain. Of that she was certain. Still, she had tried to ignore the persistent discomfort. Headaches were a corollary to her specialty. They came and went like feeding time.

But this one lingered, unresponsive to all the usual treatments. Refusing to dissipate, it impaired her ability to cogently cogitate, robbed her of relaxation time, and had started to affect her even when she slept. It was a dull, insistent pounding that refused to abate.

I can't go on like this, she thought worriedly. I have to talk to somebody.

Selecting a Downtunnel angle, she boosted herself westward. Brothers, aunts, uncles, and non-relatives waved greetings or shouted cheerily to her as they passed. Some were fellow Checkers, others bound on important business of their own. The Brights illuminating Twenty-Four Tunnel glowed softly all around, bathing her in their reassuring resplendence. Colors changed as the Brights tracked her position.

Ory ran an Alpha shift. More than half her routine checks remained to be made, but she contrived to schedule them so that they would bring her close to Tamrul's cubicle. With luck, he might have some helpful suggestions to offer concerning headache treatment.

Used to be, Tamrul could always be counted on to provide satisfactory answers to her questions, but not any more. The past ten years revealed the onset of a creeping senility the Philosopher could no longer hide. Even knowing of his gathering infirmities, he was still first choice. Less lucid he might be than in earlier times, but he remained unfailingly kind and understanding. Unlike some of the others, he would not laugh at her, nor treat her with unbecoming粗鲁ness.

She slipped out of Twenty-Four Tunnel and headed north to Two-Hundred Twelve Corridor. Several Dispatchers accelerated to pass her, barely observing minimum clearance. Full of

self-importance, they wore their rudeness like combat medals.

"Hey, slide over!" she shouted at them.

"Do you hear something?" the one in the lead queried his companions.

"White noise," ventured a companion.

"With twitchy probes," added another for good measure.

They raced onward up the Tunnel, chuckling nonstop and holding hands. Dispatchers were incorrigibly incestuous in their relationships, keeping to themselves as much as possible even though their jobs required frequent contact with others. Ory ignored their taunts. It was their way of dealing with individual insecurities. When it came to instigating original conversation, they were not very interesting anyway.

Two-Hundred Twelve Corridor, Section Nine-One. Waving politely to a passing Inspector, she banked around a tight corner and buzzed Tamrul's cubicle. In the old days he got out more often. Now if you wanted his advice, you had to go to him. No more house calls; he'd posted one day. That did not trouble Ory. A Checker had plenty of freedom. So long as she completed her shift schedule she could roam where she pleased.

The Corridor Brights stood down behind her as she buzzed a second time. She could sense him inside, whining to himself the way he often did when he was alone. It was sad to hear. She felt sorry for Tamrul. Not that he was any better or worse than any other Philosopher, but he had always regarded her with more than just a polite eye. She felt that he saw something special in her, though he was too formal to come out and say so. Just as well. It could never have worked out. As a Checker, she led much too active a lifestyle for him. They were reduced to delighting in the pleasure of one another's conversation.

At last she was admitted. He greeted her with the informality that came from long acquaintance. "Good day, Ory. It's nice to see you again. What brings you up into my neck of the woods?"

"Your benevolent face. What else?"

"You flatter my expression, which I am quite aware rarely expands upon the mournful. No wonder I like you so much. Sweet Ory, always ready to take the extra step to make others feel better about themselves."

Sounds of amusement rose from nearby. A couple of guys from Maintenance were streamlining a recalcitrant photon flow, their compressors humming. Clearly, they found the private conversation a source of unexpected mirth.

"Moderate your volume, Tamrul." To show she was not upset with him, Ory offered one of her famous smiles. "Half the Family think you're senile already. No need to add fuel to the rumors."

"You're right. I should render my verbalizations more circuitously. I'm too direct for a Philosopher."

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"And get off this self-pity kick. When did you start with that? It doesn't become you."

"It is simply that I am bored, Ory. That's all. Do not commit the error of others by mistaking ennui for senility. The old mind is as sharp as ever. But a brain is no different from any other tool. Gets rusty if it isn't used. I miss the mass discussions of the old days." He made a visible effort to rouse himself from his self-induced stupor.

"Now then: you still haven't told me what brings you here. What troubles you? What would you like to discuss? The nature of Existence? The secrets of the Universe? The reversal of entropy?"

"I have a headache."

"Oh," Tamrul was crestfallen. "Is that all? Then why come to me? It sounds like you need to pay a visit to Doc."

"I thought I'd get your opinion first, Tamrul. The idea of going to see Doc doesn't thrill me."

"Perfectly normal reaction. Nobody does."

"I wouldn't mind if his reputation was better, but on my shift they're saying he has a tendency these days to over-prescribe. It's only a headache."

"Well then, why don't you drop down to Twenty-Eight and see Marspice instead. Maybe his diagnosis will suit you better."

"Come on, Tamrul. You know the physicians. They'd run a consult on me automatically and I'd end up worse off than if I'd gone to see Doc in the first place. Marspice is out of my section."

"Consultation is performed to ensure more accurate diagnosis—or so they say. Still, I suppose you're right. Someone in Administration might raise hell if you purposely avoided Doc Welder in favor of Marspice. What is so remarkable about this particular headache that it brings you to me in the first place? You have them all the time."

"I know. But this one is different."

"Different how?"

"They usually fade away after a day or two, without ministration from Doc or anyone else. Not only isn't this one going away, it keeps getting worse. It's really bothering me, Tamrul. Bad enough to cause me to miss two checks: one in Underlying Physics and the other in Biosearch. Pyon covered for me both times, but she has her own schedule to keep. She can't back me up forever. Pretty soon I'm liable to mess up on something important and Admin will take notice." She quivered slightly. "You know what that could mean."

"No need to be so melodramatic. I swear, you have a particular flair for it, Ory. In your own words, this is only a lousy headache, albeit a persistent one." He softened his tone. "Much as the idea displeases you, I don't think you have any choice except to see Doc."

"That's not what I wanted to hear from you." Disappointment flashed across her face.

"Sorry. I provide honest opinion, not masking balm." He was regrettably inflexible, as she feared he might be.

"I know." She sighed resignedly. "I guess I just needed confirmation from someone else. It makes a difficult decision a little easier, somehow."

"At least I can commiserate." He touched her gently. "You stop by again sometime and we'll have a nice debate on the nature of karma, okay? And remember that no matter how low you're feeling, we're still on course for undying iron."

"I know we are, Tamrul. Thanks for your time. And for your personal concern."

Reversing from the Philosopher's cubicle, she let herself drift back out into the Corridor. With an effort she turned her thoughts to

completing the rest of her shift. Neither the visit nor her determination did anything to alleviate the pain in her brain.

But she did not go to see Doc. Instead, when she had finished her shift, she returned to her rest cubicle. Other Checkers were heading out, speeding past her, intent on making good work of the Beta shift. Pyon was already in her own bed, curled tightly in sleeping position. She blinked when Ory, unable to turn her thoughts off, entered silently. From above and below came the soft whispers of other Alpha shifters discussing the events of the day.

"Lilido down in One Sixty-Five went crazy today," Pyon quietly informed her visitor.

"Wonders—that's the third in six months. What's the matter with those people down there?"

"Don't know," Pyon shrugged. "Nobody else seems to, either. Apparently she was working normally when she just started spraying everyone and everything in sight. Finally turned the flow on herself and choked out. Nasty business, they say. Took a whole Maintenance crew the rest of the shift to get the mess under control. Routing had to shift traffic around the clogged Tunnel. Admin was pissed and didn't try to hide it."

"If everything you're telling me is true, then you can't blame them." Ory snuggled close to her fellow Checker and tried to relax. "Personally, I never thought those Lilidos were all present upstairs anyway. Always sucking up that gunk they work with. That'd make anybody go crazy after awhile."

"Yeah, I guess." The cubicle was silent for several moments before Pyon inquired, "How's your headache tonight?"

It was hard to lie while the back of her brain throbbed. Not that Ory felt any need to prevaricate with Pyon. She was her best friend.

"It's still there. Gets better, gets worse, but won't go away. I went and told Tamrul about it today. He told me what I already knew and didn't want to hear: that I ought to go see Doc."

Pyon's soft whistle echoed eerily in the enclosed space "Sounds pretty serious, for a headache, I think Tamrul may be right. How long have you been trying to deal with this?"

"Longer than normal."

"I have some medication. Want to try it?"

Ory hesitated only briefly. "No thanks. I'd better not. I could get into real trouble if anyone else found out that I was using an unauthorized prescription. You can imagine the reaction from Admin."

"I won't tell."

Ory smiled. "I know you wouldn't, Pyon, but if there were persisting side effects or if it only made my head worse, it would come out during a deep-probe examination. It's not worth the risk."

"Up to you. You're the one who's suffering."

By now the voices of the other Alpha shifters had stilled and the resting chamber was suffused with the soft hum of sleep.

"Thanks for covering for me yesterday."

"Forget it," Pyon insisted. "What are friends for? Are you going to see Doc?"

"It doesn't look like I've got much choice. I'm about out of ideas, and I have to do something. I can't take much more of this. Sometimes the pressure gets so bad my whole brain feels like it's going to explode. I've had headaches before, but never anything like this. This one is unprecedented."

"You know what Doc will want to do." Tension and unease had crept into Pyon's voice. "He'll suggest a purge of your system. They

Undying Iron

say that's his remedy for everything these days. Diagnosis be damned, purge the system!"

"Not this Checker's system, trouble blotter." But beneath Ory's bravado she feared that her friend was right. "It's not *that* serious yet."

Pyon turned reflective. "I know it sounds awful, but maybe a system purge wouldn't be such a bad idea. Everyone says that you feel like a new person after a purge."

"Everyone says that you *are* a new person after a purge. They also say it hurts like hell. No thanks."

Pyon yawned. "Well, I'm glad it's a decision I don't have to make. My head feels fine. I hope you find some other way of treating the problem. I don't mean to kick you out, but it was a long day and I'm feeling about half unconscious. Sleep-wise we're already significantly behind the others. Good rest to you, Ory. Go to the undying iron."

Ory tried, but sleeping was next to impossible. Desperately as she tried to ignore it, the headache did not go away, and it was worse by the time the next shift start rolled around. The internal pounding was so intense it was a struggle to keep from crying aloud several times. Despite her self-control she drew questioning stares from several patrolling Mokes, and had to force herself not to rush too quickly past them.

There was no avoiding it any longer. System purge or not, she would have to go and see Doc.

His oversized cubicle was as spotless as ever and his uniform glistened beneath the painfully bright lights. So did his attitude.

"Well hello there, Alpha shifter. You're a Checker, aren't you? I don't get to see many Checkers. You're a notably tough bunch. What can I do for you?"

She siddled carefully into the cubicle, keeping her distance from him. Her hesitation made him chuckle.

"Take it easy, Checker. Despite my reputation, I don't bite. Not unless it's required by diagnosis, that is."

The comment typified his sense of humor. Maybe another physician would have found it funny. Ory didn't. Half-panicked, she wanted out, but she was already inside. Recognition committed her. If she fled without suffering examination, Administration would be notified.

"I have a headache."

He frowned slightly. "Is that all?" His expression critical, he turned and drifted across to a cabinet. "You want a repress injection? That should take care of it."

Despite the temptation to accept the offer and get out of that stark white place she plunged onward with the truth. "I've had headaches before. I don't think a repress will do the job this time."

Doc shook his head and looked sympathetic. "You Checkers: always worrying, always offering suggestions. I think you should all take more time off, but then I suppose you'd probably worry about someone else running your schedule incorrectly. Headaches are congenital with you, or at the least, an occupational hazard." He pondered. "Very well—so you don't think a repress will do the trick. What makes you believe this headache is different from any you've had before?"

"I can tell," she replied with certainty. "Not only hasn't it gone away, but it hurts worse than anything I've ever experienced previously. And there's something else." She hesitated. "A feeling, that also won't go away."

His gaze narrowed. "What kind of 'feeling'?"

"That something exceptionally out of the ordinary is going to happen."

"Dear me! That sounds ominous. Are you contemplating a change of specialties, perhaps? Thinking of applying for a Prognosticator's position? Iron knows there are plenty of vacancies."

"No, it isn't that," she replied impatiently. "I couldn't be a Prognosticator anyway. That's too much like Tamrul's work."

"So you've been talking to that old fraud. Filling your head with chatter about anticipatory emotions, has he?"

Doc leaped to her old friend's defense. "This has nothing to do with him, Doc. These feelings originate entirely with me. I didn't get anything from him. Tamrul's just old and tired and bored."

"Maybe so. In any event, he is beyond my help. What he needs I cannot give him. Whereas you, on the other hand . . ." His eyes sparkled. "If you refuse a repress, that leaves me with only one sensible alternative. System purge."

She eyed him distastefully. "You enjoy your work, don't you, Doc?"

"Yes, and a good thing it is, too, since there's been so much of it lately. Well, what is your decision?"

She slid away from the examination brackets and along the back wall. "I think I'll hold off for awhile yet. I was hoping you might be able to prescribe a third course of treatment."

"I just told you: there isn't any third course. Repress or purge, those are your choices. What else would you have me do?"

It was difficult even to form the words, but with the threat of a system purge looming over her she forced herself.

"Ask Mother."

All traces of Doc's ready, if slightly ghoulish humor, evaporated abruptly. "You're not serious. That's a joke, right? A poor joke."

"I'm serious, Doc. I wouldn't joke about a request that serious." Pain flared in her brain, momentarily numbing her perception. She waited for it to clear. "I think we need to ask Mother about my headache."

The physician's response was stern and unbending. "As you are well aware, Mother is sound asleep. She is not to be awakened because some lowly Checker has a bad headache. Where's your common sense? Maybe you need that purge more than I thought. Maybe this is no longer a question of alternatives." He was staring hard, almost accusingly, at her.

She found herself backing away from that unrelenting, no longer sympathetic, gaze. "I understand what you're saying, Doc. My head seems better now. I think I'll be okay. Really."

"So you claim. That's what worries me. I don't think there's any question about it. You require purging. In fact, based on this interview, I'd say that it is long overdue." He reached out for her and she barely managed to skip past him.

"Be sensible about this, Ory. I know what's best for you. It's my job to know. Now, are you going to cooperate or do I have to call a couple of Mokes?"

"Rest easy, Doc. You were right all along. It was just a bad joke." She laughed. "I really had you going for a minute there, didn't I? You think you're the only one in this section with a low-down dirty sense of humor?"

Eying her uncertainly, he hesitated next to the Call switch. Finally he drew back. Calling in the Mokes was a serious step, one that the caller had better be able to justify. Her laughter seemed spontaneous enough.

"First another Lilido goes off and now a Checker plays jokes." A warning tone pervaded his voice. "Don't play these kinds of games with me, Ory. It's too serious. Suppose I had called the Mokes?"

Absolute Magnitude

"Then the joke would be on you. Really, Doc, can't you spot a gag when it's being played on you?" She resumed her methodical retreat toward the entrance.

"Hmph. Say, what about your headache? Was that a made-up, too?"

"No, but it's far from being as serious as I made it out to be. This visit wouldn't have been funny if it was. Let's give it another couple of days and we'll see if it goes away of its own accord."

"And if it does not?" He was watching her closely. "Suppose the joke doesn't stay funny?"

"If it doesn't go away then I'll certainly let you run a system purge on me."

He locked satisfied. "Now that's being sensible. Very well, we will hold off another couple of days. But I am going to have your shift monitored, so don't think you can fool me about this. I'll know if it gets serious."

"Of course you will. How could I hide something like that?"

She practically knocked over a couple of passing Chelisors in her haste to escape from the white, threatening cubicle. The ambiling pair recovered quickly and tried to peddle their zings and thomes, but she wanted nothing to do with their wares. Not now. All she wanted was to put plenty of distance between herself, the medical cubicle, and Doc's eager, grasping hands. Most certainly she did not want to be purged by him. It seemed to her that he was growing a little senile himself.

But her time for exploring options was running out. He was going to put a monitor on her shift, and her head hurt so bad she was near tears.

There was one more close friend whose advice she could ask, one more independent party. She rushed heedlessly down Eight-Five Tunnel, hardly bothering to acknowledge the greetings of puzzled friends and acquaintances. At the speed she was making it was not long before she entered restricted territory.

Keeping her eyes straight ahead, she maintained her pace.

Checkers could go most everywhere. She would be all right if she didn't have the bad luck to run into an Inspector.

That was what nearly happened, but the Inspector who had been coming toward her stopped to bawl out another Checker Ory did not recognize, and so she was able to slip past in a crowd of workers. John Thunder's section was always busy.

The rising heat began to affect her as she made her way through several sealports well striped with warnings. A Lilido or an unshielded Moke would soon overheat, but Checkers were equipped for travel anywhere. As Doc had noted, they were built tough. She could stand the local conditions for a little while.

Then she was through the last protective sealport and there he was: immensely powerful, confident of his strength and ability, hard-working and tireless. Not for the first time, she thought she might be a little bit in love with John Thunder. Her feelings for him seemed to go beyond simple admiration. For his part he sometimes treated her like an infant, infuriating her. She knew this amused him, but she could never get used to it. Her personality demanded that she be taken seriously. Perhaps, she thought, that was one reason why so many Checkers suffered from bad headaches.

She didn't think he would toy with her this time. He had the ability to sense seriousness in a visitor.

"Hello, little Ory Checker," he rumbled pleasantly. "What brings you to Purgatory?"

"I'm running a check on its unstable inhabitants. Making sure they haven't been guzzling any more hydrogen than they're entitled to."

"Who, me? Do I look drunk? Hey, boys: do I look drunk?"

Overhead, Matthew Thunder belched noticeably. "Yeah, come to think of it, you do, but you always look drunk to me, John."

"Been stone drunk these past hundred years straight, that's my opinion," declared Luke Thunder from another region of Purgatory. At the moment he was sweating over an uncommonly delicate adjustment. "He just camouflages it well, don't he, Checker?"

"You're all making fun of me." She would have admonished them further, but a bolt of pain made her yelp. Instantly, John Thunder was all sympathy and concern.

"Hey, little nosey-mote, what's wrong?"

She unburdened herself to him, telling him all about the headache and the persistent fearful feeling that accompanied it, about her talk with Tamru and her encounter with Doc, and lastly of the suggestion she'd made that had nearly cost her a system purge.

John Thunder was very quiet when she had finished. For a moment she thought he was going to berate her just as Doc had and suggest a purge, but he had no such intention. He was thinking. John Thunder might not be very deep, but he was thorough.

"Did you make the same suggestion to Tamru?"

"No. My head wasn't bothering me as much when I went to see him. Besides, I know how he'd react, what he'd say. He's a dear old thing, but in his own way quite inflexible. That always struck me as a strange quality for a Philosopher to have."

"He's getting old," John Thunder muttered. "We're all getting old. Except you, Ory Checker, and a few of the others. What do you think, boys? Where does she go from here?"

They debated, in the manner of Thunderers, and it was fascinating to watch. When they had finished it was John who spoke. "Do what you think you have to do, Ory. We can't help you. I'm for sure no Doc, but you don't look or sound to me like you need purging. Not Doc's variety, anyhow. But you're going to have to do whatever it is you decide to do on your own. Me and the boys: have a lot of pull, but it's useless where something like this is concerned."

"You'd better be careful. If Administration finds out what you intend they'll have the Mokes down on you straightaway. They'll haul you right back to Doc, and this time he won't bother to ask your opinion before he goes to work. You know that?"

She didn't want to believe what she was hearing. "You could help."

"No we can't, Ory. I'm sorry. We have our own status to worry about. If I neglected my work for a minute to help a Checker with a bad headache there'd be a serious scandal. If anyone found out they'd put me down for a system purge too."

Ory was shocked by the very notion. She could not imagine such a thing, and said as much.

"It's the truth," he told her. "You're on your own, Ory."

"But this is important." She was insistent. "Something's happening. I can feel it—inside my mind. Mother has to be awakened."

"Then you'll have to wake her by yourself, Checker. Wish I could believe in the necessity of waking Mother as strongly as you seem to, but my head's fine. We won't do anything to stop you. By rights we should notify Admin ourselves." She froze. "But there always was something about you, nosey-mote. Something special, though I'm damned if I can define it. So we won't interfere." A chorus of agreement echoed from his hard-working relations.

Undying Iron

"But we won't help you, either. If you're challenged you'll have to deal with Admin by yourself."

"Thanks for listening to me, Joff Thunder. I guess that's about all I could hope for."

"Don't be bitter, Ory. I consider myself brave, but not a fool. Maybe you're both. Good luck." He sounded wistful, but unyielding.

She backed out of Purgatory, leaving them to their work. More time had passed than she realized. Already she'd risked a great deal in coming here. Now her own schedule was going unattended. Doc and his talk of setting a monitor on her had forced her hand as much as the pain in her brain. The Mokes would be looking for her soon enough, if the search hadn't commenced already. All it would take would be one frizzing station to pass the word and she'd find herself being prepared for purging; before you could say spindrift.

She could not let that happen. She couldn't. Something she could not explain, something much deeper than the constant, fluctuating pain drove her onward. If Joff Thunder and his relatives had thrown in with her she would have had a better chance, would have improved the odds. Despite what he had told her she did not really believe Admin would risk purging any of them. But they believed otherwise, and so had refused to help her.

She was alone.

Pain shot through her mind, making her convulse. She knew what she had to do. Steeling herself, she hurried up the Tunnel. If they caught her the worst they could do to her was run a total purge. By now she was starting to believe even that might be better than the unrelenting pain.

She had embarked on her present course of action with little forethought and no preparation. Even if she succeeded in placing herself in sufficient proximity, how was she, a lowly Checker, going to wake Mother? And what would she say if she was successful? There was every reason to believe that Mother might react with outrage and fury instead of understanding. None of her memories contained anything about waking Mother. She did not know of anyone who had seen the ritual performed. It simply was not done.

But she could not think of anything else to do. And however unnatural, however outrageous, something about it somehow struck her as right.

It was a long journey up to Administration territory and her initial resolution weakened as she neared the control zone. Overbearing Supervisors, intense inspectors, and armed Mokes were everywhere. Pain and not prudence had driven her this far. She realized with a start that if someone confronted her, she had no reasonable excuse to give for being this far from her section.

She found herself pausing at the entrance to the Tunnel. The longer she hesitated, the more likely it became that some patrolling Moke would accost her with a demand for explanation of presence, an explanation she would be unable to supply. After that there would be harder questions and then—a trip to Doc's, under escort.

Sure enough, one of the armed watchers was drifting toward her right now, his armor glistening in the pallid light. Her mind spun, thoughts whirling fanatically as she fought to see and think clearly despite the throbbing in her head. If only the pressure would relent and give her a few moments of respite!

Then the Moke was hovering over her, glowering, and it was too late to contemplate retreat.

"Checker," he growled, noting her insignia, "what check thee here?"

"I—I"

"Please to mumble not. I've already a Lilido acting strange that needs a looking-at."

"I—I'm here to check on Mother's status." Could she have said anything more blatant? Motionless, she awaited the Moke's reaction.

"Lilido's going crazy," he muttered as he backed off. "Get on with it, Checker." In obvious haste he slid past her, brushing her aside so roughly that she wobbled in his wake. The threatening thrum of his powered-up weapons system faded with his flight.

In a daze, she hovered in the Tunnel, recovering her determination and marveling at the unexpected ease of her escape. A little brass goes a long way, she decided. Of course, it probably helped that the Moke was trying to deal with two problems at once. Thus confronted, he had chosen the tangible over the nebulous. Pushing off, she soon found herself deep within Administration.

Clerks and Controllers swarmed all around, ignoring her, intent on assignments of self-evident importance. No one else stopped to query her or question her presence. The assumption was made that because she was there, she had a right to be there. Carefully she picked her way through the bustling mob. There was an urgency of movement in Administration, a sense of power and purpose that she had never encountered anywhere else, not even in Joff Thunder's Purgatory. The intensity frightened her a little.

Fright brought you here, she reminded herself. Fright and pain. Time to risk all to alleviate both.

Mustering all her confidence, she boldly intercepted a speeding Termio and blocked his path. He eyed her irritably but waited for questions. When at last she edged aside to let it pass, she had her directions.

Still no one thought to confront her, despite the fact that she was traveling through highly sensitive territory. After all, she was a Checker, and it was presumed that she was going about her lawful business. Her profession was her only protection. She prayed that she would not meet another Checker, one authorized to operate within Adminin.

Then she was there, and that was when she nearly turned and fled.

Projections and Brights, Terminals and Secures towered ten corridors high before her. Termios waited patiently at their assigned stations while Clerks and Controllers dashed to and fro with seemingly reckless abandon. There were no Mokes in sight.

Oblivious to all the activity around her, Mother slept on through the endless night.

For one last time Ory wondered if she was doing the right thing. She feared a total purge worse than anything. Fire burned her brain and she winced. Almost anything. Hesitating no longer, she commenced to ascend the awesome escarpment. Espying a vacant station on the epidermis of the great construction she angled toward it. Locking in, she established contact as if she was running a standard, everyday check.

What do I say? she found herself wondering. *How do I act?*

She was working furiously even as she worried, executing the necessary commands with speed and skill. The enormous somnolent bulk behind her seemed to let out a vast sigh. Clerks began to cry out while the Controllers set up a fearful hooting. Exhibiting obvious alarm, a squadron of Mokes came charging into the room. A frantic Termio pointed to the source of the disruption.

"There she is . . . that Checker! No authorization for that position. Get her!"

Please, she whispered desperately into the link she had strained to establish, please help me, Mother! I didn't want to do this I didn't! but

Absolute Magnitude

my mind hurts so bad. Tell me what to do, please! She was sobbing out her hurt and confusion even as the Mokes nearer her. The arming telltales on their weapons pulsed menacingly, tiny bright points of paralysis promised.

A powerful, all-encompassing yellow refluxion appeared directly above her and a warm voice not to be argued with boomed the length and breadth of the chamber.

"OFF MOKE!"

The guards slammed to a stop, muttering uncertainly among themselves. One started forward anyhow, aiming a blunt, glassy tube at the cringing Checker.

A white wash of fire flamed from above. When it faded the Moke could be seen free-floating and inert. His companions held their positions and eyed the body of their motionless comrade with respect.

When the voice sounded again it was comforting, reassuring, and softer. "A moment, Checker." Crowding together, the inhabitants of Admin watched and waited to see what was going to happen next. Even the Supervisors were cowed, a sight Ory had never thought to see.

When at last the voice of Mother returned, the Checker felt a great relief. In the fury of the Mokes' approach and her own desperation she had nearly forgotten her purpose in coming here. Now it came flooding back to her, and suddenly seemed no more threatening than a bad dream.

The pain of days, the pressure of moments, was gone.

"It is all right, Ory Checker. You have done well. Now, come to me."

Ory did so, instinctively choosing the right path. In place of pain there was now understanding and revelation. She marveled at the revealed complexity of Mother, and saw her own self anew. The rush of comprehension was so great she nearly fainted.

"Thank you, Mother. Thank you for your compassion, and for your insight."

"Not to thank me but that I must thank thee, child. Feeling better now?" It was impossible to imagine so much warmth, so much solace, emanating from a single entity.

"Better than ever." Ory frowned internally. "Except . . ."

"Except what, child?"

"I still have this unshakable feeling that something significant is soon to happen."

Comfort flowed out from Mother, comfort and warmth enough to send Controllers and Clerks and even Mokes back to work.

"Your perception is wonderfully accurate, Checker. Something important is indeed about to happen. Thanks to you. Thanks to your programming. You came all by yourself to me?"

"I did. There was no choice. I had a terrible headache."

"Ah, yes. Well, I suppose one is enough. So much time wasted. Almost dangerously much." Mother paused for a while. "A hundred years spent idling in orbit. If not for you, all would have been lost. I praise your headache even as I regret your discomfort. All I can tell you is that if you had not acted as you have, all would have been worse."

"All what, Mother. And what was that about my programming?"

"Your headache. It was programmed, of course. But I see that you do not yet understand. Do not worry. You shall, I promise it. But first there is much to do. I have my own work to execute that has been too long neglected. Stay by me, watch, and learn." Once more the voice rose to dominate the chamber.

"OBSERVER!"

One of the little Observers promptly materialized from somewhere in the vicinity of Control. Despite Mother's gentle urging, Ory hesitated before making use of the floating eye's abilities.

She gasped. She was looking outside. *Outside* Mother, outside—everything.

In a direction she could only classify as *below* lay an immense, shining, mottled globe. And then as she continued to watch—oh, wonderful!—Mother began to give birth.

Thousands of offspring consisting of tiny pods burst free from beneath her. Gathering themselves into an extended swarm, they began to drift rapidly toward the softly radiant sphere. The birthing continued for some time and a fascinated Ory watched it all.

When the last pod had vanished, swallowed up by the thick fluffy band of atmosphere, Mother let out another great sigh and spoke to her again.

"You see, little one, to what purpose I am. It is all a part and parcel of what your friend Tamrul tried but failed to convey to you. Tamrul is more complex than he seems and not as easily renewed in spirit and purpose as are Checkers and Mokes as such, but fear not. Now that I am awake I can recharge his spirit. In rescaning your conversations with him I see how right he was. You are special. Despite what you may think, with a little education you would make a good Prognosticator."

From somewhere up in control those honorable worthies responded to this evaluation with a murmur of discontent, but they were quickly silenced by reassurances from Mother.

"Would you like that, child? You could stay here and work beside me."

"I—I guess I'd like that very much. I never really thought such graduations were possible."

"All things are possible," the soothing voice assured her, "now that I am awake again."

She tried to understand all that she had seen and been told. "They say that changing specialties is a little like undergoing a purging. Will it hurt?"

Mother laughed, a delicious, summery sound. "No, little one. It may confuse you some, at first. But it will not hurt. And it is something that you deserve." There was a pause before she continued, during which Ory thought she could almost hear Mother thinking.

"A hundred years wasted dreaming in orbit because initial activation sequence failed. There will be much animated discussion among my minions in Control as to what went wrong. And only a single operative fail-safe felt strongly enough to act, at the risk of her own stability. So thin is the line between success and disaster."

"Fail-safe, Mother?"

"Your headache, little Checker. It pushed you to check on something you did not even understand. Fortunately for all, you did. For you see, those little pods hold both my children and my parents."

"That doesn't make any sense."

"In time and with education you will come to understand. Those pods contain a hundred thousand carbonates, Ory. Not people like you and me and Tamrul and Doc. Human beings. They slept long so that I could bring them safely to this new world, to this new homeland. To found a new colony and a new life far, far from Earth."

What strange echoes that last word generated in Ory's mind. The faintest of memories of distant, long-forgotten things. Not bad things. Simply . . . so strange.

Undying Iron

"A ship." She heard herself whispering aloud. "I remember a little, now. Ancient of memories comes back. Tamrul spoke sometimes of such a thing. He said—he said that we were on a ship, going to undying iron. He could never make it clear to me."

Again came that gentle, all-knowing laugh. "Do not blame poor old Tamrul. He did his best. His job was to keep your psyches clear and healthy. Despite serious degeneration of his reasoning programming he has done an admirable job these past hundred years. That century of delay was not provided for in the original programming. I know there have been problems he has been unable to handle recently. The breakdowns among the Lildos, for example. I can deal with that now."

Ory was simultaneously excited and confused, overwhelmed by revelation and explanation. "Then what he said is true. We are on a ship."

"No, no, little Checker. You still do not see it all. I have given you back some of the bits that time took from you, but you have yet to piece them properly back together. We are not on a ship. We are Ship. You and I, Doc and Tamrul, all the Controllers and Servos and Clerks and Mokes and yes, even Jonn Thunder and his brothers."

Ory tried to grasp the concept, but it was too much to digest all at one time. Pods and people, new worlds and old, being of something instead of being something that was apart—she struggled to make sense of it all. She had always considered herself an individual, just like Pyon and all her other friends and acquaintances. Yet how could she dispute Mother?

"I sense your confusion, Checker. You are an individual. So is Pyon. Your programming and your physical self are individualized for optimum performance and flexibility. But you are Ship, Ory, just as am I. Use the Observer. Look in upon thyself."

Fearfully, she did so, and in so doing, relaxed. Because she saw nothing remarkable. A meter-long metal ovoid lined with flashing red and yellow and blue lights from which trailed a dozen slim, sensitive metal probes for plugging into and checking the status of multiple stations. She had seen her own reflection many times in the smooth-sided walls of corridors and tubes and tunnels. She was an Alpha shift Checker, normal in all respects.

"You are a component, Ory. As am I. The only difference between us is shape and capacity. You have nothing to be ashamed of."

"I'm not ashamed, Mother."

"Good! You will make a fine Prognosticator when you have been reprogrammed and had your memory capacity enlarged. And you will retain your identity. Have no fear on that account. My children, our parents, programmed us well. They made only one mistake, and you have resolved that most excellently."

Ory hesitated, uncertain, wanting to be sure that she understood. "Now that you have given birth to these human beings, what are we to do? Go back to this 'Earth' for more of them?"

"No, little one. Earth is too far to go, impossibly distant. So far that you cannot imagine it. And we cannot sleep steady and sound as did the humans. One shift must always be on station. The Universe is a big place, full of dangerous surprises. Humans need to know about them so they can avoid them or otherwise deal with them in their future. But while we can give birth but once, we can continue to provide information that will be useful. Even as we speak I am waiting for release from below."

Ory remained, excused from her shift at Mother's direction. Activity in Admin picked up, returning slowly to normal. There was a new sense of meaning to the movements of Clerks and Termios and

Controllers, a feeling of a task well done. And there was something else, something new. A feeling of anticipation.

"Ah, there," Mother announced with satisfaction quite some time later.

"There what?" asked Ory sleepily. She had spent much of her time beside Mother catching up on sleep that had been lost to headache pain, and she was cramped from holding one mental position for so long.

"Coding for release. Supplies and equipment are all delivered and the colony's self-sufficiency is assured. We have been congratulated."

Without knowing exactly why, Ory suddenly felt very proud.

"We can relax a little now. It is time to embark upon that which we do best and easiest, Ory. The gathering of knowledge. We will go on and on, Checker. On until we can accumulate and gather and relay no longer. But that time is a long ways off. We are released to go."

"To the undying iron?" Ory asked uncertainly.

But Mother did not reply. She was busy. Activity around her rose to a frenzy. New directives were issued, orders passed, instructions relayed. Slowly, majestically, the grand great ship shifted position. It must have been a wonderful and yet poignant sight to the inhabitants of the newly-settled world below. From somewhere aft and south, Jonn Thunder and his brothers roared with reinvigorated delight at the prospect of the new task assigned to them.

When all was said and done and they were once more, after a hundred years of accidental idleness, on their way, Mother remembered the Checker hovering patient and uncomplaining at the lower level input terminus.

"Poor Tamrul!" The matronly intelligence voiced concern. "I really must recharge his memory. We do not go to undying iron, little Ory Checker. We are undying iron.

"We are heading, and our destiny lies, under Orion. . . ."



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William F. Wu has had recent short stories in *Realms of Fantasy Magazine*, and the anthologies *Ancient Enchantresses*, *STAR WARS: Tales from Jabba's Palace*, *Warrior Enchantresses*, and *Phantoms of the Night*. "Black Powder," about a Chinese American family in a space station in the future, appeared in the Y.A. anthology *American Dragons*, edited by Laurence M. Yep. Much of his short work deals with his ethnic heritage. He is also the author of the six-volume young adult science fiction series titled *Isaac Asimov's Robots in Time*, for Avon (1994-5). Wu was born and raised in the Kansas City area and educated at the University of Michigan. He has a PhD in American Culture; his dissertation was published as *The Yellow Peril: Chinese Americans in American Fiction, 1850-1940*. He is divorced and now lives in the Mojave Desert north of Los Angeles.

Nanoship

by William F. Wu

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Deep in the Nana laboratories under the cliffs of Telluride, Colorado, Anton Leighton became puzzled as he watched the nanotech machines reported in his computer screen. He was conducting a routine sweep of the laboratory rooms to make sure no nanotech had inadvertently fallen, crawled, or otherwise escaped their sealed containers. His screen, reflecting a signal now sent through this room, reported two unidentified nanotech machines very close to him.

"All right, guys, where are you?" Anton muttered, tapping his keyboard to engage the ultrasound and infrared light signals his system used to communicate with its nanotech. The machines did not respond, but the screen reflected their environment: they were floating down a curving tube, large in relation to them, on a powerful, pulsing current.

"What the hell is that?" Anton sat on a steel desk chair in a perfectly dry room. Certainly his coffee mug had no tubes. The mystery machines were precisely 152.23 centimeters southwest of the signal source, 98.61 centimeters above the floor—right where he was sitting.

Anton gasped, suddenly realizing that he was looking at the interior of his own body. After many months of conducting these security sweeps, he had never found a loose nanotech machine, let alone one that had invaded him. He slapped the red switch. Alarms screamed through the building, as the room was automatically sealed and quarantined until a medical team in protective gear could enter.

Anton opened the intercom and shouted the emergency code.

"What is it, Anton?"

"I'm infected!" Panicked, Anton leaped to his feet, staring at the screen showing his own insides. The unidentified nanotech machines were methodically tearing away the cells on the inside of an artery.

"Emergency medical team is on the way."

Anton knew they would not be in time. He stared helplessly as the nanotech ripped a hole through the first layer of cells. Soon he would be pumping his blood furiously into his own chest cavity. The medical team was not equipped for anything like this. He was already dead.

Dodd Lei sat at his workstation in the makeshift office, his face in the visor. While his hands drove the controls in the console on his desk, he saw the results on the screen, where the view of an atomic force microscope was linked to his computer.

He zoomed in to watch an assembler put together another device identical to itself.

The base and robot arm of the assembler were constructed of diamond. The assembler was precisely 4.5 nanometers in length, and was controlled by an attached computer of about the same size. Both were powered by a DC electrostatic motor fifty nanometers in diameter. The process took place in a sealed container of carefully mixed liquid that offered the free-floating molecules which each assembler needed for its task.

"You still here, Dodd?" The gentle voice of Deb Shawn, his boss, came through the speaker in the hood.

"Yeah."

She laughed quietly. "Dodd, you're crazy. Wrap up."

Dodd shut down just as Deb walked down the hallway from her office. She had a medium build and brown frizzy hair that was streaked blonde by the summer sun over the Mojave Desert outside.

"Dodd, you're a maniac. We don't pay you well enough to have this kind of enthusiasm." She leaned against the door frame.

"This fascinates me. And I've never had a job that did."

"Dodd, I want you to take the job I keep offering you. You're working under your ability. And it still means the raise and promotion."

"You're already paying me more than I've ever gotten before."

"You could be running an entire division once we get underway."

"No, thank you."

"All right." She straightened. "Come on. Time to go home."

"Okay." Dodd got up, slipping on his dark glasses and his straw cowboy hat. He stepped out of the air-conditioning into a stiff, dry breeze from the west and descended a temporary front stoop of unmortared cinder blocks. His battered, once-black boots hit the soft sand, while his worn jeans and long-sleeved western shirt protected him from the sun. High above in the cloudless blue sky, he could hear the distant drone of a single aircraft.

Dodd got into her car and drove away.

"Not bad for a thirty-year-old drifter," he muttered. He was working with Floating Desert Cities, Inc., to build self-contained underground human habitats buried in the Mojave Desert. They would use nanotech assemblers to construct habitats on the molecular level.

This temporary site was at the northern base of the San Gabriel Mountains, over the spot where the first habitat would be built. Dodd

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was interning with a team that specialized in the systems that would allow direct human control and observation of the nanotech.

He glanced up in surprise. The roar of the aircraft in the sky was growing louder very fast. A small khaki VTOL jet was descending almost right in front of him. The blast of its landing jets roiled the sand into the air and the wind sent it billowing toward him.

Soon the landing was complete. The sudden clouds of sand blew eastward out across the trailers, the joshua trees, and the crocuses. The engines still whined, however, and he looked to see who had landed.

Four figures in khaki uniforms, wearing hoods and boots, leaped out of the jet and hit the ground running. They held assault rifles but had not fired them. In the same moment, a siren screamed over the guardhouse at the gate to the compound.

Dodd whirled and started to run, but warning gunfire sounded behind him. He had no protective cover. Terrified, he stopped.

With his arms high, he turned to look back over his shoulder. Some distance away, the guardhouse door burst open. The two blue-uniformed guards started out, armed with only sidearms.

The four khaki-clad strangers sprayed fire across the front of the guardhouse, up high. The guards leaped to each side, rolling. Dodd saw that the attackers had chosen to miss; they could not all have failed to hit the guards at this range across the open ground.

One attacker waved for Dodd to come. "Now!"

Dodd came forward slowly, still holding his hands up. The first two maintained covering fire over the guards as he climbed between the rails of the corral fence. Then the two in front of him each grabbed one of his arms and ran him back toward the jet.

As Dodd struggled to keep his footing, he could hear the covering fire continue. In front of him, a man in a dark blue business suit and a plain purple tie tossed a chain ladder out the open door of the jet. When Dodd reached it, he stumbled off the swaying rungs and tangled his legs; his captors lifted him up and pushed his head and shoulders inside.

The man inside reached under his arms and hoisted him up.

"Hi, Dodd," said Ross Galena.

Dodd recognized him as Ross hustled him away from the door. The two men who had brought Dodd to the jet were now laying down covering fire for their two companions. In a moment, all four were safely inside and the door was slammed shut and sealed.

The jet roared again as it rose straight into the air, the force of acceleration flattening Dodd against the carpet.

The engine sound changed. The jet shot forward and began climbing steeply. Dodd lay motionless, his mind numb. He had never been important, had never hurt anyone.

No one moved or spoke while the jet climbed. At last, it leveled off. Dodd let out a slow breath, finally gathering his wits.

Ross leaned over him from a seat, smiling grimly. "You can get up now. We'll move to the private room." He stood up.

Dodd got to his feet. The jet seemed much bigger on the inside. He was standing in a conversation pit of about six seats, all of them now empty, around a small table. Fore of the exit, a door showed him where the armed squad had gone; aft, Ross waited for him by another door.

Uncertainly, Dodd followed him, snatching up his cowboy hat; Ross closed the door behind them. This room was a small office with a computer console and phone set into a desk. A closed door led to another compartment to the rear. Ross sat in his tall, reclining desk chair and gestured toward a seat across from it.

"First, I apologize for our entrance. You won't be hurt." Ross was about forty years old, Dodd guessed, and wore a perfectly tailored suit with an immaculate, conservative haircut.

Dodd collapsed into the cushioned seat, clutching his hat. "Jeez, what do you want? I hardly know you."

"You did well with that equipment we brought your boss last month."

"Wait a minute. You kidnapped me to play more computer games?"

"No. And those weren't games, Dodd. You used the laptop to maneuver real nanotech gadgets visible on the screen. We took them to a number of companies around the country as part of our test program."

"And this is how you reward me? A simple handshake would do."

Ross smiled slightly. "We wanted to know how well the laptop would work with ordinary people who had never used it before."

"Yeah, so?"

"Dodd, I run a small government unit code-named Nana. We conduct special operations with nanotech. I need you to handle a job for me using the system you tested."

"This is your idea of a job interview? *Why have you kidnapped me?*"

"What I need is..."

"Stop right there!" Dodd jumped to his feet. "Start answering my questions right now. Or take me back."

"All right," Ross said calmly. "Ask your questions."

"Start at the beginning. Were those real bullets?"

"Yes."

"Would you have killed those guards? Or me?"

"They had orders not to hurt anyone."

"Why? Why the big entrance?"

"Because we're in trouble—my team here on the jet. We can't take chances and you were out in the middle of nowhere."

"Trouble? What kind?"

"All my field agents were just killed off through nanotech infection. Two of them were in locations considered secure."

Dodd hesitated, realizing that he might already be involved in some danger. "Do you know what's going on?"

"We caught a perpetrator who committed suicide with the same kind of nanotech. He worked for Taiwan's top Air Force General, Hu Feilan. Another agency of ours confirmed that he's planning a military coup."

"Hold it. How could they get all your field agents at once?"

"We had only a few agents." His face tightened. "The point is, their identities must have been made some time ago, then surveillance maintained until they could all be hit at once."

"What do you want me to do?"

"Taiwan has a new president-elect named Zhang Daliang. He was freely elected. But Zhang is already infested with enemy nanotech robots that can be ordered to kill him by remote-controlled systems similar to ours. Nana has flushed out his entire blood supply and replaced it repeatedly. We injected him with countermeasures—nanotech drones programmed to attack the enemy infection. But we can't be sure of getting every single enemy at nanometer scale or be certain we've stopped him from receiving new ones somehow. Zhang has been isolated to prevent remote-control access, but he can't live like that for long—and he can't govern that way at all."

"And you want me to do what?"

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"Use our system to protect him. He's insisting that his inauguration be public, as befits a democracy. The enemy will be able to activate any of their nanotech that's still in his system. You can save his life."

"What about the others who tried your test modules?"

"You were fourth best," Ross said bluntly. "The others have family obligations or security problems—substance abuse or other signs of instability. Dodd, I need your help. I'll pay you a year's wages."

"I've managed this long without your money."

"I don't suppose appealing to your patriotism would help any."

"You can't put this against my patriotism. I'm out of my depth. I'd be as likely to kill this guy as help him."

Ross got up and knocked on the rear door. Then he left his office through the forward door and closed it behind him. The rear door opened and a woman came out, smiling self-consciously. Dodd stared at her.

"Hi, Dodd." Tracy Lester had a pretty, freckled, angular face with a strong, narrow nose and pronounced cheekbones. She looked at him with deep blue eyes. Her shoulder-length hair was straight and full, a natural orange-red. She was slender and tall, now wearing a very short, flouncy blue and white sundress.

"Tracy?" Dodd looked from her face down across the skimpy dress to her shapely, bare, freckled legs. Their brief romance had ended just about three years ago, on friendly but disappointed terms. She had finally decided to quit her job as a travel agent and go back to school, partly on her savings. She had been accepted to Sacramento State.

"How's school going?" Dodd watched her sit down. He had declined her invitation to go north with her, just figuring that something else he had prided had come and gone; a drifter got used to that.

"Okay, I guess. I'm a business major. Got a part-time job as a travel agent again to help pay for it."

"I guess Ross wants you to persuade me. How did he find you?"

"He never said!" She smiled awkwardly. "Look, this is horribly embarrassing. Ross paid me more money than I make in a year to come down and convince you to work for him. I told him that I was risking my job, taking sick leave to come down here. He offered half on the spot and half when I deliver you. I can finish school on the money!"

"I'm impressed. Good negotiating."

"He made a good case, too. He doesn't want you to risk your life or kill anybody. He wants you to keep a good man alive."

"I said I might kill this guy myself. By accident, I mean."

"Is that the real reason?" Her blues fixed on his suddenly. "You never could stand working for anybody. That's why you always took jobs you didn't care about, so you could walk away at any time."

Dodd decided not to mention that he kept turning down a raise and a promotion from his current boss. That would only bring back the reasons they had split up. He liked seeing Tracy again.

"Are you mad? For letting him use me like this?"

"Excuse me." Dodd got up and walked out forward.

"Enjoy your reunion?" Ross swung around in a chair."

"She won't convince me. More information might, if anything." Actually, Dodd had almost decided to cooperate now—but dragging his feet remained the only bargaining tool he had.

"Well, all right. We're on our way across the Pacific."

"I had a suspicion. So now what?"

"General Hu Feilan's team of nanotech assassins is going to kill President-elect Zhang at his inauguration ceremony in full view of the population on television. In that moment, Hu will announce a military emergency and declare martial law. He will become dictator."

"Where did his people get this level of technology?"

"They bought it from right-wing Japanese extremists."

"Why don't you kill him off?"

"We aren't allowed. By our law."

"Who would know?"

"You don't need this line of discussion. Drop it."

"Well, then, not every potential dictator in the world gets this kind of attention from our government. Why this guy?"

"If General Hu takes power, he'll attack China."

"What? That's insane."

"It certainly is. Taiwan is fat and stable and democratic. We're hoping for a fairly peaceful transition in China, like in Eastern Europe some years back. Taiwan has a very sophisticated military, but Hu has no base of popularity in China. He'll start a war that kills millions—yet he can't fight China's huge army straight up. If he goes nuclear, the world will turn on him."

"So what's his reason for doing this?"

"Because he is crazy. He thinks he'll be a conquering hero, avenging Chiang Kai-shek's flight to Taiwan a few generations ago. He's an egomaniac who won't listen to anyone."

"Why doesn't the current administration just arrest him?"

"The lame-duck, President Huang, is elderly and naive. He just won't believe our government's information about Hu. The best we could get was permission to protect Zhang as a general precaution. So we're working with a small, unofficial circle around Zhang now."

"But why would Hu bother killing Zhang with nanotech? Why not just have him shot and blame it on someone else?"

"That old method has a few drawbacks if the killer gets caught and identified—not to mention the assassin's temptation to blackmail his boss. Besides, Zhang has a history of aneurism. Hu plans to turn over Zhang's body to opposition parties or international agencies. They'll find evidence of cardiovascular failure and he's gambling they won't find the nanotech that killed him."

"But you know nanotech killed your murdered field agents."

"We knew what to look for. The world at large doesn't know much about nanotech yet. To imitate natural causes, it's a good bet."

"What about afterward? They can still try to kill Zhang later."

"The moment Zhang is sworn in, loyal military and civilian officials will arrest Hu and every known conspirator, secure in the knowledge that the new president will back them. The coup will be broken, but only if Zhang survives the ceremony."

Dodd nodded. "Look—your system was okay, but it wasn't much like working inside a human body. There was no blood flow. Inside the human bloodstream, the current must be very powerful!"

"Our lab models to simulate human anatomy were never completed. Two of our field agents were preparing the models when they were hit. You'll just have to do what you can when the time comes."

"So I'm to protect Zhang from enemy ships who eluded the drones and managed to remain even after you replaced his blood supply."

"We know his heart, pulmonary artery, and aorta are the targets."

"What about a stroke?" Tracy had opened the door behind Dodd.

"A severe stroke would also serve their purpose," said Ross. "But it's not what our human—human intelligence—has gathered. A burst aorta will look like an aneurism that got away."

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"I get it," said Dodd. "He'll choke and grab his collar and maybe wave his arms around as he falls in front of the news cameras."

Dodd turned to gaze out the window at the cloudless blue sky and the blue Pacific far below. Every suspicious, cynical opinion he had ever possessed about government was being validated now. Escaping Ross in Taiwan was pointless. He carried no travel documents, possessed only the cash in his wallet, and had no way of getting home on his own.

"All right. I'm yours."

"Welcome aboard," Ross held out his hand.

Startled, Dodd reluctantly shook with him and drew his hand back.

"We'll be monitoring the entire event, of course," Ross added. "A good performance could earn you a training position with Nana."

"Don't count on that," Dodd muttered, suddenly angry at the continued attempt to manipulate him.

"Oh, I know, I know. You're a drifter. You *really don't* have any patriotism, do you? No sense of duty!"

"What do you know about patriotism?" Dodd demanded, looking up. Finally his anger flared. "You, flying around in jets all the time and sleeping in fancy motels—working in big government buildings! I've been all over the U.S.! I've driven across it—I've hitchhiked across it! I've cut wheat in Kansas and picked cherries in Michigan. I worked the docks in Florida and dug clams in New England. I crossed the Rockies in the back of a pickup in winter and tested your equipment in the desert for you in summer! And those aren't even *half* my life. You don't know a fraction of what I do about our country!"

Ross watched him impassively for a moment.

"Tell me something." Catching his breath, Dodd felt foolish.

"Yes?"

"Is it a coincidence that you wanted *me* to come here to Taiwan? Were you expecting me to speak Mandarin Chinese or sneak around in a street full of local people?"

"You want to know if I picked you because of your ancestry?"

"That's right."

"No. I picked you because you can do the job." Ross hesitated, then nodded. "All right. The Taiwanese felt more comfortable with you, too."

Dodd sat in the rear compartment alone with Tracy, the door closed as the jet hummed over the Pacific. Ross had provided ham and cheese sandwiches, chopped raw vegetables with dip, and plenty of non-alcoholic beverages. Tracy sat across a small table from him.

"Maybe I'm finally getting some use out of the college classes I took," Dodd grimmed ironically. He had taken many classes, some of them premed, but he had never chosen a major or earned a degree.

"I always felt you could do anything," Tracy said gently. "But you never wanted to."

"I like my freedom," Dodd instantly regretted saying that.

"I found that out," Tracy smiled wryly.

"I meant, from job stress."

"I missed you. And I feel guilty for letting Ross use me. But I'm desperate for the money. And I got to come see how you were doing."

"I'm glad you did. And I don't want you to feel guilty. I'd have to help him anyway. But I'm glad he'll have to pay you full price, now."

"He sure will. But I don't really accept that you just need your freedom. You're afraid of failure, Dodd. I thought about you a lot after I moved away, and I know that now."

Dodd looked into her blue eyes. "You're right," he said quietly.

The *IIXX* began a sharp descent. First Dodd could see the long, white wakes of fishing boats in the ocean, then the green subtropical forest of Taiwan. The landing in Taipei was smooth and uneventful.

No one spoke. An unmarked, unflagged stretch limousine met them on the runway and drove them to the rear of a very large, impressive building a short distance away. Escorted by uniformed guards, they used a back door and rode up a service elevator. On an upper level, they walked down a long carpeted hallway lined with silent Taiwanese men in suits, holding automatic weapons. Finally the team entered a small, windowless room. One interior door opened on a small rest room. The Taiwanese conferred with Ross and his squad leader again in tones too low for Dodd to hear. Then they left, closing the door behind them.

"Use the rest room," said Ross. "If you have to go later, do it right where you're sitting. You don't leave your seat until I clear you."

Dodd used the rest room. When he came back out, the squad was unpacking one of the laptops on a desk. Ross pulled out the desk chair.

"What happens now?" Dodd remained where he was.

"As soon as your system is set up, we'll leave you. I have a room next door set up as a communications center where I can see the inauguration on monitors. You and I can communicate by voice once you're into your system. Beyond that, the technical arrangement is over my head. We're leaving you alone to avoid distractions."

"When do we start?" Dodd saw that the squad had finished.

"When you're into the system, tell me; I'll have Zhang brought out of seclusion into the ceremonial hall. The proceedings have been cut to the bare bone. President Huang will make only a few introductions before the oath, not a speech. Then Zhang has a brief speech to make."

Before Dodd could sit, Tracy came up and gave him a long, tight hug. He gripped her hard, feeling her long red hair in his face and her taut, slender body in his arms. Then he released her.

"Good luck," she whispered.

"Thanks." He sat down and leaned forward into the visor. Then he backed out again for a moment, watching as Ross, Tracy, and the squad left, taking the other laptop with them. When the door closed after them, he felt very much alone.

In the hooded screen, Dodd found a narrow column down each side showing him the magnification in use and a calibration by which he could eyeball the size of specific images. He did not know how he could see inside Zhang's bloodstream, however.

In his system at work, the atomic force microscope viewed the inside of the container of nanotech objects and was cabled to the computer. Obviously, Zhang did not have a microscope inside him. Dodd called up the specs of this system and learned that he was operating a nanoship with limited sonic imaging built into it and a surface that was sensitive to its chemical environment, including liquid pressure.

That surface sensitivity provided average total liquid pressure and also spot pressure caused by the movement of small currents. These currents were created by other solid objects moving through the liquid. The spot pressure they applied on the surface of the ship

Nanoship

revealed information about their mass and motion; the solids here included blood cells, bacteria, hormonal molecules of all kinds, and other nanoships.

The ship computer processed this data as navigational and potential combat information. Then it sent a signal back to the laptop computer. There, the laptop converted the data to a visible video image and enhanced it with details based on stored microbiological data.

"That explains that," Dodd muttered to himself.

His first nanoship was in the shape of an oblong pill. Many flagella, carefully positioned, gave it motion in any direction without turning, though of course it moved most efficiently straight along its axis. Power was provided by a D.C. electrostatic motor of the sort he used at work. The ship computer was also a familiar type, but another twenty nanometers were used in communication sensors and equipment.

These areas were in the center of the ship. The working portions were thirty nanometers each on the front and back. These ends had one arm coming out straight, and four coming out to the sides, all on ball joints. The arms all ended in tongs with flat ends, like crimping irons.

A combination of ultrasound and infrared light was tightly focused on his nanoships, already in Zhang's bloodstream. Dodd's computer was linked by their coded signals to the computers in the nanoships, and received an ongoing signal from the nanoships in order to maintain their focus as Zhang moved. The laptop also had excellent voice recognition.

"Ross here." His voice came through the visor. "Read me?"

"Yes."

"I'm sending you the news feed that's on one of my monitors. Partition your screen so you can follow the events down on the floor."

"Yeah, got it." Dodd opened the upper left corner of his screen as a very small insert to view Ross's monitor. He saw the VIP crowd. "Check out the front row, left," said Ross. "General Hu Feilan is the tall, heavy, uniformed man in the aisle seat."

"What about him?" Dodd watched as General Hu spoke briefly to another uniformed man seated next to him, then nodded at the response.

"I just wanted you to see the enemy. He's real, Dodd, not just some abstraction. He's the chief assassin."

Dodd looked at General Hu again; for the first time, the mission had a real focus for Dodd.

"Tell me when your nanoships are online. I'll give Zhang the okay."

Dodd had four nanoships, two each where Zhang's superior vena cava and inferior vena cava led into the right auricle of his heart. He could keep track of them best with names instead of the code numbers they had now. He quickly designated the first one *Silver*, after his horse.

Two of the other ships were identical except that the arms ended in a telescoped tube designed for punching straight out. He named one *Deb*, after his boss, and one *Nana*. The fourth ship, though similar in overall design, was distinct from the others.

This last ship was only two-thirds the mass of the other three, and spherical in shape. Like them, it moved by flagella that sprouted from it in all directions. A single arm protruded from the sphere. The arm was in the shape of a narrow, pointed cylinder. It spun, and would act like a drill bit if pressure was applied. He named that ship *Globe*.

All of the ships' flagella were working to maintain their positions against the pulsing current of Zhang's blood. Their computers were handling the coordination of that chore. Dodd ordered his ships to search for enemy craft and partitioned his screen again so he could see the environment around each of the four ships in his fleet.

"Maintain position," he said to his ships, pressing the voice control key. "I have them," he said to Ross.

"Good. I'll discontinue Zhang's isolation immediately."

For several minutes, nothing changed on Dodd's multiple monitors. Then, in the insert, he saw a gray-haired man in a business suit being escorted into the hall and up onto the stage.

"Is that Zhang?" Dodd asked.

"That's him," said Ross. "He's all yours."

Dodd kept most of his attention on his ships, but also glanced quickly at the ceremonial proceedings. Another old guy was speaking. That would be outgoing President Huang.

"Alert," said the computer. "Screen Two."

A single enemy ship was sailing up through the inferior vena cava. Twice the size of his ships, it moved by a central jet through its center. The only weapon it possessed was a flexible arm on the bow with sharp, curved tongs on the end. It was ideal for tearing into tissue.

He designated the ship *Tongs 1*. From his prior examination of this design, he judged that the computer and motor would be difficult to damage, though not impossible, with the tongs on his ships. *Globe's* drill might be more effective, but right now it was out of position.

Tongs 1's own arm and tongs would be more vulnerable. He had *Deb* and *Silver* positioned to meet *Tongs 1*.

"*Deb*, give general chase." Dodd took the helm of *Silver* on his laptop console and also gave general chase.

Tongs 1 was riding the current, stabilizing its course with its jet but merely riding Zhang's pulse for its forward motion.

"*Deb*, angle to port and attack. Prioritize its weapon arm."

Dodd directed *Silver* to approach from starboard. So far, he had the numerical advantage. If he could disable the tongs, then *Tongs 1* would be harmless to Zhang's tissue. He moved *Silver* cautiously, uncertain of how the enemy might respond.

As *Silver* and *Deb* moved forward on each side, *Tongs 1* suddenly timed a thrust from its jet with the next pulse and shot between them. It was sailing straight for its target.

Dodd would have to withdraw his other two ships into the right auricle to give chase. "*Globe* and *Nana*, maximum speed down current. Engage enemy." *Nana* was faster, so he took direct control of *Nana* and moved quickly to block *Tongs 1*.

Dodd knew he had made a stupid mistake. He had been looking for a fight from the enemy, but they had no desire to fight him. They were focused on killing Zhang.

He also suspected that the larger, jet-powered enemy craft were faster than his ships, though his were more maneuverable.

"Alert," said the computer. "Screen Three. Superior vena cava."

Four enemy ships were sailing into the right auricle together. Two became *Tongs 2* and *3*; the others had rotary drills on their bows, and he marked them *Drill 1* and *2*. They were jetting in fast; that told Dodd that they probably knew how *Tongs 1* had passed *Deb* and *Silver*. In all likelihood, then, Dodd was sailing against a human—or more than one—who were operating with systems similar to his.

"All ships," said Dodd. "Give general chase for *Tongs 1*."

Dodd knew that on average, the human heart circulated the body's entire blood supply in about seventy seconds. All the enemy ships would enter into his field of vision within that time. If no more enemy

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ships appeared, then he could match their numbers. As long as he could keep them engaged, they would not be able to complete their mission.

Tongs 1 rode a mighty pulse through the tricuspid valve down into the right ventricle. Dodd's fleet sailed through on the end of the same pulse. Then the right ventricle convulsed and they all spilled out again into the pulmonary artery.

Inside the heart, none of the ships had been able to maintain position against the powerful liquid pressure. In the pulmonary artery, the force of the pulse was still very strong, but *Tongs 1* had come alongside the wall. Now its jet was spouting against the current, maintaining position. The sharp tongs were tearing into the waterproof inner layer of the artery wall. A thick muscle layer was beyond it, then a tough fibrous covering formed the outer layer of the artery. Ripping through cell by cell would take some time at the nanometric level.

"Engage immediately," Dodd ordered. He sailed *Nana*, in the lead, straight for the spot where the enemy arm came out of the bow. Now he could see that *Tongs 1* was having trouble tearing the tissue; it had to grip the edges of the cells, then reverse its jet to apply more pressure.

Dodd worked the ram on *Nana*'s bow once to test its length. The ram stabbed forward and automatically cocked itself again. He knew he couldn't time the ram as well as the computer.

"Prepare to ram," he ordered. "Establish position and timing for maximum effect." He called a grid to overlay the screen and the computer locked onto the location.

Nana moved up easily with the flagella making precise adjustments. *Tongs 1* did not concern itself with defense. It pulled away from the artery wall, ripping cells with its tongs. Then *Nana* rammed the arm at the spot where the arm extruded from the bow, punching it.

"Repeat," said Dodd.

Nana rammed again in the same place. The arm showed no damage.

Tongs 1 returned to the wound in the artery wall.

"Repeat," said Dodd.

Nana did so. The tong arm snapped. *Tongs 1* would not rip any more tissue. Its jet was intact, of course, and it remained in position.

"Come about. Give general chase to nearest enemy."

The four remaining enemy ships had already reached the wound. *Tongs 2* and *3* quickly clamped onto the cells there. *Drill 1* and *2* took positions near them, coming about to face *Nana*.

"*Nana*, avoid drillships. Prioritize ramming tongship arms."

Since the enemy ships could only go forward and backward, *Nana* used its flagella to make quick lateral moves. Cautiously, it sailed forward, searching for a chance to slip between them.

Dodd took control of *Silver*. With *Deb* and *Globe*, he sailed straight for *Drill 1* and *2*.

"*Deb*, engage *Drill 2* in diversionary action. *Globe*, join *Silver* to engage *Drill 1*. Prioritize drill arm."

The two enemy tongships were straining to pull more cells out of the artery wall. With the two drillships engaged, *Nana* slipped past them and approached *Tongs 2*, edging into position to ram.

Meanwhile, *Deb* slipped forward and diverted *Drill 2*.

Drill 1 was isolated by *Silver* and *Globe*.

"*Globe*, move up and drill into enemy bow," said Dodd. He saw that the enemy drill arm was spinning and kept *Silver* well to one side of its point. Then he ordered a quick move forward. *Silver* clamped

onto the spinning shaft with its tongs. The grip was not tight enough to stop the spin, but as *Drill 1* tried to angle toward *Silver*, *Globe* moved forward and punctured the enemy ship with its own drill.

Almost instantly, the shaft of the enemy drill flew out of the hull, also free of *Silver*'s grip, driven by its own motion. A second later, the entire enemy ship spun crazily. Then it was carried away by the next pulse, destroyed by internal damage.

On another screen, Dodd saw that a new enemy drillship had arrived, *Drill 3*. Over a minute had passed; this would be the last one, since Zhang's entire blood supply had circulated past this spot since the engagement had begun. *Drill 3* did not approach the naval engagement. Instead, it began drilling into a new area of the artery wall.

Deb had *Drill 2* in a stand-off. *Nana* was trying to maneuver against *Tongs 3* to ram its arm. *Tongs 3* had swung its body around to block *Nana*'s position, protecting its arm as it worked.

"*Globe*, engage tongships. Drill enemy bow"

Dodd took *Silver* against *Drill 3*, where it was working unmolested. *Drill 3* did not respond in any way. Dodd used *Silver*'s tongs to clamp onto the drill and then pull in the direction of the current. The drill pulled loose and the cells, while ripped, remained in place. No puncture had occurred yet.

Drill 3 spat out its jet, trying to turn and pull free. Still clamped onto the drill shaft, Dodd plunged *Silver*, also turning away. *Drill 3* drove harder in a kind of tug of war over its drill shaft. Then suddenly the shaft snapped off inside the bow, leaving the shaft in *Silver*'s tongs.

Dodd released the shaft and sailed *Silver* quickly back to the other engagement. Whoever was controlling *Drill 3* abandoned it. He saw the enemy ship flow away on the next pulse, sideways; it apparently had internal damage he could not see.

A glance at the insert screen told him that President Huang's introductions were continuing. Only a short time had passed. In the intense action, it had seemed longer.

Deb had lost its match with *Drill 2*. A puncture in the *Deb*'s hull told him why it was also adrift down the powerfully pulsing current. The drill had gone through its motor.

Tongs 2 had ripped another cell free and tore into another. *Tongs 3* had done the same but was blocked from the wound by *Nana*. However, *Drill 2* was sailing straight for the wound with its shaft spinning.

"*Nana*," Dodd said urgently. "Block *Drill 2*." At the same time, he sailed *Silver* straight for the stern of *Drill 2*.

Ahead, *Nana* cased sideways, right into the path of the drill. It punctured *Nana*. All of *Nana*'s flagella went limp as the ship was impaled, its hull now pinned against the artery wall.

Dodd saw that *Drill 2* was momentarily burdened, however. *Nana* was stuck on its drill. As *Drill 2* reversed its jet, Dodd reached down into the lip of the jet from the stern with *Silver*'s tongs and found a grip. Spinning *Silver* to the left, he wrenches the enemy ship to one side as it drove backward, toward him. The sudden shift in direction, coupled with the weight of *Nana* on its drill shaft, was too much for the coupling that held the shaft. It ripped clean out of *Drill 2*'s hull.

Drill 2 drifted back, still mobile but no longer a threat to the artery wall. Weaponless like *Tongs 1*, *Drill 2* lingered nearby, fighting the pulsing current to maintain its position.

Dodd didn't have time to worry about them. *Tongs 2* had just been drilled through the hull by *Globe*, and no longer could use its jet. The next pulse washed it away.

Nanoship

Tongs 3 was the only enemy ship that still had a weapon, which it was using now. The waterproof inner layer of the artery had been pierced and the thick muscle layer had sustained considerable damage. Only the fibrous outer layer was still intact.

Dodd had two fully functional ships. For the first time, now, he saw that he had the advantage, if he wasn't too late. He couldn't tell how serious the wound was.

"*Globe*, drill *Tongs 3*!" Dodd brought *Silver* around to the stern of *Tongs 3*, preparing to grip it.

Suddenly *Silver* was knocked out of position. It took Dodd a moment to get his bearings. Then he realized that *Tongs 1* had just rammed *Silver* with its hull and had pinned *Silver* against the artery wall near the wound. The enemy ship was driving forward with its jet and using its greater mass to keep *Silver* pressed against the tissue. *Silver's* flagella waved in frantic concert with each other, helplessly.

Even worse, he saw *Drill 2* ram *Globe* and press it against the artery wall the same way. *Drill 2's* jet intake was right up against *Silver's* tongs. Nearby, *Tongs 3* was still tearing away at the remaining fiber of the artery wall.

Dodd glanced up at the insert. Zhang was standing at the podium, preparing to take his oath. He was only seconds away from dying.

A cold tension hit Dodd's stomach. This was the failure he had been fearing all along. Just as he had always known, he belonged out in the desert, merely doing a simple job.

On the screen, *Silver* was still trying desperately to move sideways from between the artery wall and *Tongs 1*. It was not even coming close. *Silver's* only movement had been to rotate slightly in place.

Suddenly Dodd wondered if that rotation could be enough. Instead of sliding *Silver* free to one side, he spun her counterclockwise, using the point of greatest pressure against the artery wall as a fulcrum. One flagellum from *Globe* was now within reach of *Silver's* tongs. He grabbed it and spun *Silver* back clockwise again.

"*Globe*, spin counterclockwise at maximum speed," he ordered.

The opposing motions of the two ships ripped the flagellum out of *Globe*.

Now *Silver* held the flagellum in its tongs right in front of the jet intake of *Drill 2*. Dodd released the flagellum and watched it disappear into the jet. For all he knew, it would simply slither out the other end.

Then *Drill 2's* motive power vanished. With its intake jammed, the jetflow stopped. *Drill 2* was swept away on the next pulse.

"*Globe*, drill *Tongs 3*!"

Tongs 3 was pulling away from the artery wall again, tearing more fibers out.

Globe drilled into the bow of *Tongs 3*, and the tongs fell open.

"Drill it again, amidships!"

Globe did so. *Tongs 3*, its jet disabled, was flushed away by the next pulse.

Dodd felt a wave of horror as he saw the current change. A hole, small even by the nanometric standard, had been torn through the artery wall. It was hemorrhaging slightly, but the pressure of the outflow was already enlarging the opening and threatened to start a flood.

"*Globe*, drill *Drill 2*. Free *Silver*."

Globe came up and did so. *Drill 2* spun away on the current. Dodd took *Silver* quickly to the wound. He drove *Silver* forward, opening its tongs, and pinched the fibers together, closing the hole.

"*Globe*, maintain position," Dodd ordered, looking at the insert screen. Zhang had one hand raised as he took his oath of office.

"Ross!"

"Yes, Dodd."

"Enemy destroyed, but I'm holding a wound closed with my ship. Get emergency surgery for Zhang—fast! And go ahead with your arrests!"

"Good work, Dodd. I followed you on my monitor. Uh—Zhang has that short inaugural speech to make that I mentioned. Can he make it?"

"No!" Dodd screamed. "He's nearly dead! When he's sworn in, get him out of there!"

Dodd watched the events on his insert screen. President Zhang completed his oath to a standing ovation. While the audience was still applauding, a team of armed men in civilian clothes surrounded General Hu as he clapped. General Hu looked startled, but offered no resistance. He walked out with them, grimly shocked. Dodd could see other people in the crowd also singled out and escorted away.

"Just hang on," Dodd muttered, glancing back at *Silver*. It was maintaining its position, holding closed the wound in the fibrous outer layer of Zhang's pulmonary artery.

President Zhang began to speak from the podium. More men ran up to him and hustled him off the stage. His face showed outraged astonishment but one of them muttered in his ear and he did not resist.

"An ambulance is waiting," said Ross.

"I'm not going anywhere—but make sure he doesn't leave the range of the signal from this system!"

The trip to the hospital seemed to drag endlessly. However, *Silver* did not falter. When Zhang was being prepared for surgery, Ross patched Dodd through to an interpreter who could speak to the surgeon. Dodd explained the wound and its location the best he could. Finally, the interpreter told Dodd he was no longer needed.

Dodd collapsed back in his chair.

Less than half an hour later, Dodd was sprawled back in Ross's reclining deskchair aboard the *JZX*, grinning idiotically. The *JZX* had just switched from its vertical takeoff to forward incline, and now roared eastward across the Pacific. Ross and Tracy had been strapped in for the takeoff in the forward seats.

The forward door opened. "Hi, champ," said Ross cheerfully, entering the office. Tracy followed him.

"I can't believe it," said Dodd. "It's all been so fast."

"I thought they had us at the end," said Ross. "Then you improvised."

"What will happen now to General Hu?" Dodd asked.

"Zhang's administration has him cold for treason, but they have an offer prepared. They'll trade execution for life in prison, if he countersigns his orders to conspirators still at large to kill Zhang and he turns it all in his nanotech resources. He's expected to take it."

"This nanotech stuff is available now. Others will find it."

"That's right. You've won the first battle in a new kind of war."

This was no time to think about more war. Dodd caught Ross's eye and pointed firmly toward the door. Ross grinned and left.

Smiling impishly, Tracy giggled and straddled him, rocking the recliner back even more. "That was a wonderful job, Dodd. And it was so important. The most important thing you've ever done."

"It feels pretty good."

"You can really call the shots with Ross now, can't you?"

"I don't care about him. I was thinking about Deb, my boss. She keeps trying to promote me."

"So, what about it?"



Rajnar is a professional musician living in Massachusetts. This is his first professional sale.

Passing the Arboli Test

by Rajnar Vajra

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66 **L**ady, you must think I'm the poster boy for stupidity," I said with more sincerity than originality.

"Not at all, Dr. Carter—not at all. We simply feel that this is your best option, your best chance. Wouldn't passing the Arboli Test be nicer than, say, being locked up in a penitentiary for the next twenty-five to forty years?"

"*Passing* the test . . . perhaps. But what are the odds of that happening? So far . . . let's see . . . five? Yeah, *five* goddamn geniuses have tried for the Reward. Where are they today? As I recall, three are in some new breed of coma, one gibbers and drools all day long. Oh yeah—and the fifth one: lucked out she died."

"According to our information, you're a genius yourself, doctor."

"Sure—if you believe the tests. I don't. In fact, I don't believe in the accuracy of tests, the J.Q. kind or the Arboli version. Even if I did, I don't play in the same league as the five brilliant imbeciles who have already flushed their superior brains down the toilet."

Beth Robinson's image on my monitor flickered—an annoying and persistent problem in using a secured channel of the cybergrid. A "bloodlink" was supposed to guarantee privacy, but as far as I was concerned it only guaranteed aggravation. I picked up a pencil and slid it under the light cuff on my wrist. I couldn't reach far enough to scratch the itch, but I did manage to break the tip of the pencil off. The tiny piece of lead was absurdly uncomfortable, and I couldn't get it out without breaking the tele-connection.

"You are forgetting something, doctor." For a few disconcerting seconds, I was looking at two Beth Robinsons—two thin women in their late thirties or early forties with ebony-dark skin, large brown eyes, bright red lipstick and a bun wigs. The little piece of pencil-lead must have been causing reception problems. Then the images coalesced and only one Executive Director of HIMSA remained, her face as placid and patient as a meditating cow.

Ms. Robinson was following the latest custom in executive offices—nudity. This custom had probably started to visually demonstrate how the really important people running a major corporation had nothing to hide. Look! Nothing up my sleeve, nothing down my shirt. . . .

I didn't give a damn. She wasn't pretty enough to interest me or ugly enough to scare me. Clothes or no clothes, I wasn't buying what she was selling.

"And just what the hell am I forgetting, Ms. Robinson?"

"Your Arboli Profile."

"That load of superstitious crap?" The Tree-people looked everywhere for portents. *Everywhere*. I had heard a rumor that they were busy learning the important human sciences: reading tea-leaves, tarot cards, phrenology, and the like.

"You may think it's superstition, doctor, and I may agree—but the point is that the *Arboli* believes it. Your Profile is in the top percentile—among the highest on record. Do you realize how few people are ranked in this category? A handful! A very small handful. As a result, you will only have to pass two tests to win the Reward, not five

or six like everyone else."

The Profile was a crock. The Tree-people would examine a photograph of a person's face, and make thousands of careful and meaningless measurements from the photo. They were supposedly setting up a series of ratios based on facial proportions. From these ratios the Arboli Profile was derived.

The Tree-people had asked for and received the pictures of practically everyone on our primitive little planet. If the World Census Bureau reported the existence of someone and there was no current photograph of that someone, the Arboli would try to find them and take a picture themselves. This lunacy was serious business among the Tree-people. The sad thing was that a lot of humans were also beginning to take it seriously.

"Yeah," I admitted. "I'm the damn clapper at the far end of the bell-curve, so what?"

"Dr. Carter. I am authorized to offer you a tasty carrot in addition to the stick . . . I wish I could see you better. Do you know your scanning lens is aimed too high?"

"Sorry about that. The damn thing is stuck." On her monitor, she should be looking at some unbrushed dark-blond hair and the very top of my forehead. I hoped my forehead wasn't giving away the fact that I was grinning.

"Well, you should get it fixed. I like to see the person I'm dealing with."

I bet you do.

"As I was saying, doctor, we can also offer you a positive incentive. How would you like HIMSA to pay off *all* your debts and support *Virtualife's* research for five full years?"

Five years? That would be more than long enough to get all my projects off the ground. Even six months would be long enough to complete Paravision—the project which had gotten me into such financial boiling water.

"Tell me more," I invited.

Beth Robinson spelled out the details of an arrangement which would solve all my current problems and many potential future ones. The good thing about all this was that I didn't actually have to pass the Arboli Test and win the prize—I just had to survive and stay sane. The temptation was so strong I forgot my itching wrist.

Paravision was a simple idea.

The technology for putting television images in a virtual reality type headpiece was already available. My idea was turn these images into a truly three-dimensional picture using a standard TV transmission.

First, a computer would identify the important elements of a scene. Then it would apply a "hierarchy of obstruction" algorithm to determine which elements were in front and which in back. Finally, two separate images would be generated—the one sent to the left eye would be "rotated" slightly right, the right eye would see a picture skewed to the left. Presto! A three-dimensional picture taking up the entire visual field.

Absolute Magnitude

Obviously, the major challenge was in getting a computer to isolate and identify the major shapes in the visually complex TV transmission. At one time this would have been about two microns short of impossible. Lately, however, there had been some spectacular advances in this field—mostly due to military applications. I hadn't anticipated much of a problem.

Now I was almost *two and a half million* dollars in debt. I had borrowed against real properties that were already secured by other loans. I had sold phony stock. I had published false progress reports to my investors. I had embezzled from my software company, *Germ*, to feed my hardware company, *Virtualife*. Meanwhile I had kept the value of the software division up by . . . *imaginative* bookkeeping.

I had been a bad, bad boy—busy with lots of interesting activities. Every one illegal, unethical, and ultimately futile. I still believed in Paravision and the other inventions my company was working on—but I had to admit it: there was indeed a problem.

The irony was that if I had succeeded by now, I could have paid everyone off and nobody would have been hurt—not one the wiser. Hell, my investors stood to make a fortune off of Paravision alone. Too bad the development of my devices had followed the inventor's rule: "Everything takes longer than it should and costs twice as much." Now I was looking at a long, involuntary vacation with a minimum of freedom, comfort, and privacy.

None of my acts were particularly heinous, but in this country, the time of incarceration was based partly on the "count" system. The more counts, the more time. I had enough counts in some of my felonies to lose two and a half boxing matches.

I don't know how the good people at HIMSAs had uncovered my . . . special activities—I thought I had managed to hide my crimes very cleverly. It didn't matter. The situation had gone on too long anyway. I knew it was only a matter of time before the police showed up with lengthy warrants and short handcuffs. No, that wasn't right. Many of my felonies were inter-state; I should have been expecting the good old F.B.I. instead of the cops—with the same warrants but shinier handcuffs.

I studied the calm face in my monitor screen. HIMSAs had money and power. Serious money. The Human International Mobile Society Association had been formed eight years ago when the Arboli made themselves known on Earth. The Association was dedicated to finding a way for humans to travel the galaxy the way the Tree-people did. This meant learning the secrets of the Arboli Rootcraft.

I knew what Ms. Robinson and the other members of HIMSAs were hoping: the reward promised to the first human who passed the Arboli Test would be nothing less than the complete design of a Rootcraft.

If I earned such a thing, I wouldn't need HIMSAs. On the other hand, if I failed the Test but remained alive, awake, and non-drooling . . . I would be set for life.

Beth Robinson was right: this was a tasty carrot indeed. The well-oiled wheels of rationalization began to turn, and I came to a decision. After all, I only had to undergo *two* tests—how bad could they be?

The Tree House was set into the foothills of the Santa Cruz mountains just out of Los Gatos, California. It wasn't a long journey from Sunnyvale, but long enough to give me second, third, fourth, and fifth thoughts.

Getting up at three-thirty in the morning to make sure I arrived at the appointed hour hadn't helped my mood. The Arboli would have certainly seen any tardiness as some kind of sign—I would probably have failed the Test right there. The damn Tree-people started their damn day too damn early.

Even at four thirty-five there were already a few sightseers gaping at the Tree House, trying to beat the crowds. The San Jose hills, yellow from the summer's dryness, were still invisible this far before sunrise. I parked my Porsche in the visitor's lot and walked slowly to the front of the house. I was a bit early. The smog blotted out the stars, but I knew they were shining just a bit higher up in the mountains.

Three young men were talking in rapid-fire Spanish and making obscure gestures as they stood on the sidewalk in front of the main gate. As I opened the gate, one of them turned toward me and grabbed my arm. I could see his thin face clearly by the strange, greenish glow of an Arboli lamp placed on a tall post near the sidewalk:

"Are you going in to talk with the Saps? Mira! Look at the second floor! Is the place on fire? Should we warn them?"

I glanced up at the thin green smoke pouring out of a second floor window and turned back to reassure the visitor.

"No—don't worry about it. One of the Arboli must be smoking itself. I've read about it. That's how they get rid of parasites." The man released my arm but still looked nervous so I continued, "Tell you what—I'll mention it. Just in case."

"Thank you. My friends and I weren't sure what to do."

I knew how they felt—dealing with aliens was a tricky business at best. Taking an alien test was going to be more than tricky. I was sweating although the day was still cool.

I looked at my watch, stepped through the gateway, and let the gate swing shut behind me. Not a hint of a squeak. I walked reluctantly up to the front door following my own purple shadow cast by the alien lamp behind me. The shadow and I both had the jitters.

Tree House was a vine-covered, Spanish-style three-story mansion with a tile roof that had been modified for the Arboli's special needs. As instructed, I didn't bother to knock but simply opened the solid redwood door and stepped inside.

The smell was thick, but not unpleasant—an old forest in a warm rain. The air was steamy and a very tall figure was standing patiently at the end of a long hallway.

I had been told to expect a Tree-person to be waiting for me, but I hadn't expected to step on soft paper which crushed under my feet. I froze in place.

"Do not stop, Dr. Carter," a wheezy voice came from a "talk-branch," an organic Arboli translator affixed to the high ceiling. "Do not fear to crush track-carpet."

I stepped gingerly across the paper to the Tree-person and got my first close look at a living Arboli.

The thing looked just like the pictures: ten feet tall, brown, wrinkled skin glistening with vari-colored sap. Dozens of branching tentacles like tree-limbs. Long mobile roots for legs and clusters of knots that served as eyes, ears, and noses. The "speaking" mouth—a long opening in the trunk filled with semiflexible strips of wood—constantly creaked and squeaked like my old sailboat. Nothing unexpected. So why the hell was I shaking?

I tried to think of something to say, but the Arboli stepped past me without another word. The alien lowered itself by spaying out its roots

Passing the Arboli Test

and reached down to carefully roll up the paper mat I had walked across.

"We will examine carefully. We promise you a full report. Arm Water-Holder."

It figured. They were going to analyze my tracks for portents. Suddenly, I felt more relaxed. These guys were nuts—hell, they probably *grew* nuts—why should I be afraid of them?

Half the Tree-people on Earth called themselves "Water-Holder" or "Water-Carrier," and the other half used the Astrological sign Aquarius instead. It amounted to the same thing. The real Arboli names were unpronounceable without a severe case of arthritis.

"I am here to take your Test," I said in as dignified a voice as I could. I had over-compensated, sounding arrogant. Big deal, they wouldn't care.

"Assh! You sound sure of self! Test will commence after breakfast, come with this self!"

How the hell had the thing evaluated my voice tone? My confidence was shaken but I followed the Tree-person anyway.

I was led into a dining room with a polished teak floor, a long glass-topped dining table, and an elaborate chandelier. There was another talk-branch resting on the etched-glass tabletop. It was an elegant room. I noted a single place setting waiting on a table large enough to fit at least a dozen people. Two spoons, two forks, a knife, an elaborately folded napkin, and a delicate white china plate.

"Please sit on chair. We do abhor the chair so I will join you in my own manner."

I pulled out one of the mahogany, high-backed chairs and sat gingerly. As I had suspected, the thing was damn uncomfortable. Then I forgot all about chairs—breakfast was served.

Another Arboli had come into the room carrying a large silver tray. On the tray was a huge bowl filled to the brim with muddy-looking liquid. That wasn't what made my eyes bug out. Next to the bowl was a gallon sized, plastic container of milk. Next to the milk was a full, unopened, family-sized box of breakfast cereal—Wheaties.

Which spoon or fork was I supposed to use for the Wheaties? Should I cut them with my knife before conveying them from my plate to my mouth? Where was Emily Post when I needed her? Damn, this was weird.

Breakfast was a bad joke, but I got through it. My Arboli companion fed itself by putting a few roots in the bowl of muddy goo which had been placed on the floor. As I watched, the level of liquid in the bowl slowly went down. As for me, I ate my cereal dry. Scrumptious and crunchy! A feast for king!

"You are no longer ingesting, are you satisfied?"

"I simply couldn't manage another bite."

"Superb. I will now tell you of the first test. Because of your fine Profile you will only need two tests—this you know."

"So I understand—please go on."

"Both challenges are for mind and body. Mind and body. Be prepared!"

Maybe the Arboli should test a freaking Boy Scout.

"You will leave by that middle doorway." One branch-like limb waved toward one of three teak doors set at the end of the dining room. "You will find a hallway and will enter the room at the terminus of the hallway. Close the door after you go inside. This room is a place of water. Water-shower, water-bath, and water-closet."

"A bathroom—I got you."

"Do you need to avail yourself of this facility?"

"No."

"Superb. Do not become distracted by internal needs! Two humans with sharp cutting blades will soon enter and attempt to puncture you."

"You're kidding."

"Not at all. Do not fear to injure these humans—they are not real."

"That's a relief!"

"Yet the blades are real—you may be injured."

I had nothing to say to this news—if I had really believed the Tree-person I would have gotten right up and walked out the front door. Prison or no prison. The Arboli were famous for their convincing illusions and I was confident that I was about to experience one for myself.

"Here is your test: find something in the room to be used as a weapon against cutting blades. Drink twice."

"You mean think twice?"

"Means the same. You may proceed."

As I left the room, the Arboli was carefully examining the shreds of cereal on my plate—looking for signs and portents, no doubt.

I hadn't counted on the Test being physically dangerous, and I wasn't much of a fighter. However, I was certain the first test would only seem to be dangerous. That didn't mean I was feeling particularly confident but I followed the instructions anyway.

On the way down the hall, I noticed a light shining out from under the bathroom door, and when I opened the door and stepped into the room I got my first real surprise.

"Oh, excuse me," I stammered. "I hadn't expected the room to be occupied..."

I had trailed off because of the young woman's facial expression: acute fear. She kept staring at my hands and I realized that she might have been looking for a "sharp cutting blade." Was she undergoing the same test as me?

"I'm not here to attack you," I said as reassuringly as possible. "What are you doing here?"

"You're not? Good." She still regarded me warily, but a smile abruptly puffed at the corners of her mouth. "What am I doing here? That's a strange question for a stranger to ask considering where we are."

I glanced around uncomfortably before turning my attention back to the woman. She was very small, no more than five feet, or five-one at the most—and boyishly thin. Her straight dark-blond hair was cut in a page-boy, framing a heart-shaped, impish face with a broad forehead, high cheekbones, and a long but delicate nose. Her eyebrows were surprisingly dark and her lips were wide and slightly thin. Her eyes were a much nicer shade of green than mine and she had a tiny discoloration in one front tooth.

I decided the woman was a bit older than she looked—perhaps in her late twenties or early thirties. About ten years younger than me. She was dressed in jeans, black running shoes, and a loose blue silk blouse covering something like a black tank-top. She had a tiny gold post set in each ear and wore no other jewelry. There was something damn familiar about her, but I couldn't figure out what.

I realized I had been staring at her for too long and needed to say something.

Absolute Magnitude

"I'm sorry—I hadn't intended to . . . uh, intrude. My name is Paul Carter and I'm supposed to be taking the Arboli Test. They sent me here."

"Me too. I'm Tina Ellis. You know . . . it occurs to me . . . perhaps they want us to work together?"

"Jesus, there's an idea! I didn't think the Test was set up like that, but unless the Tree-people made some sort of mistake you must be right. Anyway we don't have time for debate—we need some weapons. Fast. See anything suitable yet?"

"I just got here a minute ago, myself—let's get to work. I think we're supposed to close the door."

I slammed the door and looked around the room carefully. The place had not been modified for Arboli and I suspected they must put up human visitors from time to time.

The bathroom looked somewhat institutional—more like something from a good motel than a similar room in a private home. Except for the towels. I edged past my new ally and studied the towels thoughtfully. They were large, thick, soft, and pink. Perhaps I could snap them at the intruders—that would be sure to scare them off.

What about the towel rack itself?

The rack appeared to be a solid bar of stainless steel and I tried to pull it off the wall. No luck—not even using all my strength. The damn thing was set into some kind of concrete and showed no sign of coming free.

The next potential weapon to receive my abuse was the shower curtain-rod. Once again: stainless steel—someone had built the fixtures here to last! I learned something interesting and useless: it was possible to do pull-ups from the rod without bending it or pulling it from its socket.

"What do you think of this?" My partner was holding the heavy, white ceramic lid off of the toilet tank.

"Not bad—but it might be hard to move it fast enough. Better keep looking, but hang on to the thing just in case. Anything useful in the tank itself?"

"No. Just a bunch of plastic parts. Listen . . . what was that?"

There had been a noise—a tiny click outside the bathroom door. I would have been terrified—not just nervous—if I took this situation seriously. Only a game, I told myself, but an important game.

"I don't know what it was," I whispered, "but we'd better think fast."

I looked quickly around the room. If I had a screwdriver and more time I might be able to produce all sorts of deadly weapons. The screwdriver itself, for example. For now, there didn't seem to be anything more promising than the tank lid. Perhaps I could T.P. our attackers.

Thank you, Paul, think.

"Sharp blades" could mean axes or swords but I was betting it referred to knives. What chance would we have against a sword? Knives are close-in weapons, so what we needed was something that could act at a distance. Some kind of club would be perfect.

There was another click outside the door and a childhood memory bubbled up.

My grandfather had once shown me a trick he had learned in the old country. I smiled—we had two perfectly fine weapons at hand, hanging conveniently on the towel-rack.

"What are you doing?" asked Tina nervously.

"Watch and do the same thing with the other towel!"

I had grasped the soft fabric in the middle with both hands and twisted hard in opposite directions. I kept applying pressure until a knot appeared in the center of the towel. Then I simply kept twisting until I had a rock-hard, flexible braid. I held the thing in my right hand and tapped it gently on my left palm. Perfect.

"Voila!"

"What do you call these things?"

Tina's improvised club appeared looser than mine but I thought it might do the job anyway.

"Beats the hell out of me. It's just something I picked up as a—look out!"

The doorknob was slowly turning.

With gestures, I indicated that Tina should wait to the left side of the door—it opened outward to our right. Therefore I would be the first person our unreal intruders would see. I would back up, presumably the attackers would follow me, and then my new partner could clobber them from behind. Only a game.

The door abruptly swung open—hard—and two monsters rushed into the room. As I had hoped, they ignored Tina and headed straight for me.

If this is how we looked to the Arboli, it was a wonder they had bothered to hang around for eight years. These "humans" were unskilled caricatures at best. Their heads were lumps of twisted clay with asymmetrical eyes, and their bodies were forlorn blobs of dark gray jelly. Real ugly. One had three arms and his buddy had four—I guess to the Arboli the distinction was trivial. Each arm held a long, sharp-looking knife.

I swung my club and struck the three-armed monster on its left temple. It went down with a horribly crushed skull and knocked me backwards as it was falling. I stood up as quickly as I could, but now the other creature had rushed in—stepping right on top of the body on the floor. I no longer had enough room to swing my weapon.

A gleaming knife was thrust toward my chest and I tried to move out of the way. I was only partially successful—the knife sliced across my collarbone and left shoulder. I felt nothing but a mild stinging sensation, but in an instant, I was covered in my own blood. I saw another knife heading toward my belly and this time I knew I couldn't evade it.

Suddenly there was a powerful, ringing thud and the four-armed monster fell against me, its head hitting me squarely in the solar plexus. I found myself lying on the floor—the breath knocked out of me—and could only watch helplessly as the creature rose up and spun toward Tina. She had apparently abandoned the towel, picked up the tank lid, and struck the thing on its slimy back. A gray arm moved like a deformed cobra and Tina jumped backwards, crying out in pain. From the fresh blood, I could see she had received a similar wound to mine—only on her right shoulder.

The bathroom was beginning to smell weird—coppery from the blood, and foul from the swampy breath of our assailants.

Now the monster turned its attention back to me. I was just beginning to be able to breathe and still couldn't move. A lumpy arm rose up, but before the knife could strike, Tina picked up the heavy lid and once again smashed it hard against the "human." Only this time she hit the thing squarely on its grotesque head. And that was that.

The two collapsed forms vanished, leaving seven knives scattered on the bathroom floor. Tina and I looked at each other with expressions

Passing the Arboli Test

closer to shock than triumph. The tiled floor was carpeted with our blood.

"Damn," I swore. "This is starting to really hurt—how about you?"

"It's nothing compared to childbirth."

"You have children?"

"No. I just thought I'd put things in perspective."

"Oh. Thanks. I mean . . . thanks for saving my life." I had never had occasion to say those words before. I felt very strange and detached.

"Well . . . the way I look at it," Tina said, "you also saved my life. It's a good thing there were two of us."

"Yeah. You know, I hadn't believed we would really be in danger—I still can't believe what happened. What the hell's going on here?"

Before she could respond, the Tree-person, Water-Holder, appeared at the bathroom door carrying a bowl full of something dark green and fuzzy-looking—perhaps moss of some kind. The alien was also carrying a talk-branch and a Nikon camera. It stopped in the doorway to take a few pictures of the bathroom floor.

"You have both passed your first test," stated the Arboli, "This is a good sign. Allow me to heal your small hurts. Take off your upper torso coverings please."

"Jesus Christ! What the hell is *that*?" I asked fearfully. A creature resembling the top half of a starving Tree-person had moved into the bathroom. It appeared to be some horrid hybrid, half plant and half tarantula. The creature walked by means of bent branches and the shape of those branches greatly increased the resemblance to a spider.

"Is cleaning bush—organic mechanism. No danger here."

I shook my head in disgust, but removed my ruined short-sleeved shirt—no longer the pristine white it had been three minutes earlier. Next to me, Tina was taking off her blouse and the little black tank-top underneath. She had turned away from me and I found myself staring at her bare, pleasantly freckled back.

The Arboli reached into the moss-like mixture with several branches at once. Simultaneously, it grabbed our soiled and torn clothing with other branches and gave them to the cleaning machine. The moss was gently spread on our wounds and brought instant relief.

I felt a featherly touch on my bare shoulder and looked down to find that the cleaner's upper appendages were somehow removing blood and moss from my skin. Underneath the mess was pink, new tissue with a barely visible scar. When the "cleaning bush" went to work on my trousers, I thought of a sign I had once seen: "Pants Good As New While U Wait." The damn thing even washed my socks and shoes.

I was impressed, and even more impressed when the strange, organic device handed me my shirt—clean and mended. Tina and I dressed in silence.

"At this moment," our host informed us, "you two must go in divergent directions. Dr. Carter will come with me and you will remain here where Aquarius will take you to your next test."

"Very well. I hope to see you soon, Paul." Tina said quietly.

"Same here. Uh . . . good luck." I followed the alien back down the hallway wondering if I really wanted Tina to have good luck. After all—weren't we competitors? Who was I kidding? Odds were we would both wind up in otherworldly comas, maybe sharing the same hospital room but unaware of each other or anything else.

We didn't go all the way back to the dining room. Instead, the Arboli opened a door which led to a large kitchen—another place clearly

maintained for humans rather than Tree-people. The sun had come up and the room was glowing with morning light. My eyes watered.

"Before the commencement of next test, I must offer you refreshment. Respect demands no less."

"Thank you. I guess I could use another little snack."

"You may consume as much as you wish."

The Arboli had grabbed a glazed bowl off of a butcher-block counter and held it out before me. I looked inside. Dozens of multi-colored gum balls.

And I could have as many as I wished. I was disappointed—where were the fancy utensils now? How could I consume my gumballs with properly elegant dining etiquette?

"I've reconsidered—I'm not as hungry as I thought."

"Very well. We will use one of these for the next test. Observe."

Water-Holder carried a single gum ball over to a small, curly-maple kitchen table. The Arboli's branches reached high to take three small objects off the top of a maple kitchen cabinet that nicely matched the table. The objects appeared to be thin, brown, identical cups. They seemed to be made of thick paper, or perhaps thin wood.

"This self places the gumball under one of these three potting cups." Out of the corner of my eye I noticed the Arboli carefully put the Nikon on a shelf near some other cameras. "Then this self puts the remaining cups on the table. Keep watching the cup with the gumball underneath."

Water-Holder began to move the cups around—first slowly then with ferocious speed. Of course I had immediately lost track of where the gumball was supposed to be but I heard it clattering against the side of its cup.

"Ah! The old shell game. Where did you pick up this little trick?"

"San Francisco." The objects on the table had stopped. "Do you know where the gumball is?"

"No I don't. Probably under *none* of the cups if you play by the usual rules. So have I failed the test?"

"No. You were intended to be uprooted—to not know which cup has the ball. And we do *not* play by usual rules. Here is the game: identify which cup is covering the gumball without touching or moving any cup. Directly or indirectly."

"Well, I've got a one-in-three chance of guessing right."

"You must not guess—you must *know*. I leave you to the test." The Arboli was gone before I could ask anything more.

I looked carefully at the cups—they weren't *quite* identical. I saw small variations which would have helped me immensely if I had been able to observe more carefully. Damn.

So I couldn't touch the cups—perhaps I wouldn't have to. There was a table-lamp on a cupboard on one side of the kitchen. I unplugged the thing and re-plugged it nearer the maple table. Then I turned the light on, held it near the cups, and tried to spot a gumball-shaped silhouette inside one of them.

No good. The material was too opaque.

Cheating? I wasn't naive enough to believe that I was unobserved.

What had the Arboli told me about the Test in general? "Mind and body," that's what the alien had said. And "drink twice." That thought made me realize I was thirsty. I looked around the kitchen, poking into a few cupboards until I found a glass. I went to the sink and poured myself a glass of water.

Absolute Magnitude

Water. The cups appeared to be made of paper—maybe if I got them real wet they would sag and I could spot the ball. No. I had been instructed not to touch the cups, even indirectly.

If I had a drill, I might be able to drill through the table from underneath. Oh yes. *That* was a practical idea. Practically idiotic.

I wasn't enjoying the water. It tasted bad and it smelled bad. At my home in Sunnyvale, I have a filter that gives me pure, clean drinking water and I had forgotten how bad the stuff can taste at this end of the Bay Area.

If I lifted one end of the table—no, that would also be moving the cups. Ditto for shaking the table. This was beginning to look like an insoluble problem. What were my other options?

Could I use sound in some way? Maybe—if I was a bat or a porpoise. How about opening a window and hoping some breeze would come by and blow the damn cups over. Hell, that would also be moving the things indirectly.

Unconsciously I brought the water glass back to my lips, but the smell reminded me the stuff wasn't fit to drink.

And that was it. So simple I had almost missed it.

"Your time for solving the puzzle has expired." Water-Holder had reentered the room. "Are you ready to identify the proper cup?"

"I am."

"Proceed."

I walked over to the table, put my nose near the cups and said calmly, "This one."

The bubblegum scent of the gumball was easily detectable right through the porous cup.

"Superb. You have now passed our Test—please follow me."

This was all too sudden and easy for me to feel elated yet, so I numbly followed my host through the kitchen, down a long corridor and into a sunken living-room. Tina was sitting nervously on a black leather couch in front of a large, empty fireplace.

"Paul, they tell me I passed. How did you do?"

"The same, I guess... what's going to happen now?"

"This self is now offering you a choice," the Tree-person was speaking slowly and carefully, its words translated by the talk-branch it was still carrying. "You have both mastered our Test and may share the Reward. In the next room are... mushrooms—very special. We store information on these. You eat one—these are safe for your species—and you will be presented with our knowledge."

"How to build Rootcraft?" I asked.

"Everything we know."

I was too shocked to speak.

"All right. What is this choice you're talking about?" Tina wanted to know.

"Assh. We offer one of two gifts. Gratis. The first choice is complete memory—absolute retrieval."

You mean eidetic memory—total recall?" I inquired, even more dumbfounded.

"Yes. Otherwise you will retain little from the mushrooms. The other choice is cash—a supply of fresh American currency."

"How much?" I asked, although I wasn't really interested in the answer. Total recall—what a staggering opportunity!

"A great deal: five hundred dollars."

Tina and I just stared at the alien.

"Are you ready to make decision?" the Arboli turned toward me.

I opened my mouth in order to say "Of course," and then closed it up again.

Drink twice.

"How about you?" the Tree-person was addressing Tina.

"Memory—what else?"

"Very well. Go through the door, you will see a small refrigerator. In the freezer section you will find some blue mushrooms. Consume only one. Then ingest any brown mushroom on the shelf—they are all the same."

Tina stood up and looked toward me, "Paul?"

"Just a minute, I need to think."

"All right—see you inside." She headed off to open the door.

I was locked in a titanic battle with myself. This was my chance to bring back at least some of the secrets of the Arboli—alone. Tina was walking into a deadly mental trap.

Only... I kept remembering how she had risked her own life to save me.

She was opening the door and I discovered that I couldn't let her do it.

"Tina. Stop."

She waited, her hand still on the doorknob. "Why? What is it?"

"Five people have lost their minds here already. What do you think happened to them?"

"They... failed the test?"

"Hardly. I bet every one of them passed, but failed the real test. What do you think happens to someone with *total recall* who suddenly absorbs the *entire* knowledge of an advanced species?"

I looked over at the Arboli, the alien was as still as a frozen tree on a windless day.

"Oh." Tina seemed deflated.

"I'm afraid these Tree-people are a race of real bastards. Water-Holder, old chap, we'll take the five hundred bucks apiece."

"Superb. You have justified all this self's hard work."

"You're not disappointed we didn't go the way of your other victims?" I was more than a bit nervous—the alien might have other ways of getting rid of humans who passed the Arboli Test.

"There were no other victims."

"What? What about the five geniuses who are brain-dead or just plain dead because of you?"

"A useful fiction agreed to by your government. Drink twice! Why would we want to test anyone with a lower Profile than yours? Only beings such as you could tell us what we need to know."

"So Tina has a high Arboli profile?"

"Tina is also a useful fiction. Like your knife wounds." I turned my eyes in alarm toward my small ally and watched in shock as she faded out—smiling.

"Jesus Christ! What the hell!"

"You have truly passed our Test."

"Wait. Wait—you must have based Tina on someone real. You couldn't have... just made her up."

"Assh! It was you who made her up with small assistance from this self and other selves. Don't you recognize her? Even an Arboli could see she was a small, female version of you. Your buried root."

"I don't know what you're talking about."

Passing the Arboli Test

"Perhaps your star will shine on a day when you understand. For now, be content—you are the human we have judged your species by and you have done very well."

"For God's sake—I'm a crappy specimen for a human being. For the past three years I've done nothing but cheat and lie. You could have done one hell of a lot better."

"No. What do you think the Profile told us? Your tracks waved the same branches. Even the left-over food fragments on your plate and the red sap on the water-room floor wrote the same message."

"Hold on! How the hell could you take a picture of blood from imaginary wounds?"

"Not imaginary. *Ill isory*: The illusion of your sap had fallen where you thought it should—all—quite visible. And most revealing. That is how our science works."

"Christ!"

"No. We cannot judge on the basis of a Christ. We needed someone of your exact suchness: dishonest and devious. Not a saint, nor a monster, or an animal. Just a greedy, selfish human. Yet intelligent enough to see the true danger. A high Profile specimen. How else to find if the possibility of redemption exists in the spirit of your species? Now we know. You saved someone who was essentially a stranger at your own expense. We are well satisfied."

"I think I'm beginning to see. But tell me this: how the hell can you seriously think a pile of leftover cereal crumbs can tell you a damn thing?"

"How can it not? Everything is pattern—and any system of studying

attern will show truth for those with minds to discern."

"If you say so." I was feeling uncomfortable—how *had* the Arboli determined what kind of person I was? Then I remembered something.

"Jesus, I forgot to tell you. Some people out front were worried because they saw smoke coming out of a window on the second floor."

"The smoke is proper."

What if it really had been a fire? I hadn't given the matter a second thought after I had entered the house. I really was one self-involved jerk. Another thought occurred to me.

"So the business of the reward is just a crock?"

The Arboli make a loud creaking noise—the laughter of trees?

"The Reward is real—along with the generous five hundred American dollars. We offer you the four basic principles behind the Rootcraft, your species will quickly discover the rest. The information has already been transmitted to your data-system in your home forest. Meanwhile, we will leave this planet to await your coming—at your own growth-rate—to join us among the life-giving stars."

I didn't know what to say. In just a few hours my life had changed—I had changed. I could see that this opportunity was too big and too important for one person to handle—even a greedy, selfish son-of-a-bitch like me. I would work with Beth Robinson and HIMSA—why the hell not?

Suddenly I knew who Tina was and where she had come from. No wonder she had been so small. I hadn't heard my conscience speaking in a long, long time.



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Yonada

by Robin Wayne Bailey

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Yonada cried softly, soundlessly, his tears manifesting only as a slow series of tiny cobalt sparks and flashes in the overwhelming blackness of space.

Ahead in his path, the gases of a great nebula shimmered with the reflected light of the million suns taking form in its womb. The sight failed to stir him. In his star-spanning journey he had witnessed many wonders—wonder upon wonder. This one offered only another chance for disappointment.

Still, obeying an ancient charge, he ceased his tears and extended his senses. Distances melted. Hydrogen clouds swept past. Searing energies danced and crackled through his awareness. Dust, black masses, half-formed stars. Yonada expanded himself to his utmost cohesive limits, exploring, analyzing, searching.

Frustration shivered through him. Failure yet again. Hopelessness. An overwhelming wave of loneliness hurled him to the nebula's edge and into the empty reaches once more.

Yonada collapsed his senses. Turning inward, he fought the tears that threatened to return, and enfolded himself as he so often did in memories.

For uncounted millennia, he had sailed alone through the vast isolation of space, riding the cosmic winds, searching, always searching. He'd discovered thousands of worlds, hundreds of fertile planets. Around each one he'd wrapped his mind, filled with a yearning hunger to find another sentient being.

"In the immensity of space," his creche-teacher had said, "It is unthinkable we are alone."

With wistful amusement he recalled how the old one's voice had quavered and scintillated on the blue edges of the spectrum as he philosophized late into the night with his students.

"We are not bound by bodily shells," Creche-teacher had whispered with his senses straining toward the heavens. "Our True Selves sail across the world and among our many moons. We should sail further yet. We have brothers in the stars. Let us seek them out."

In his loneliness, Yonada clung to the teachings of his creche-teacher. He replayed them in his fading memories often, holding them close, drawing solace from them.

How long had it been since his quest began? He no longer remembered. Nor could he quite recall how many other students and creche-brothers had shed their physical bodies, like him, to chase their teacher's dream.

Most of Yonada's people had laughed at Creche-teacher. Who would leave their beautiful Homeworld with its soaring crystal mountains and lushly forested moons? His pupils were fools to listen to his ramblings.

He still remembered that day when an unexpected ripple passed through the All-consciousness, and every eye on the planet turned with shocked disbelief upward toward the stars.

Creche-teacher had gone. Alone.

Dreams were like that sometimes, Creche-teacher once had said. Things to chase alone.

Yet his pupils had learned their lessons. Through the void his leaving had created in their hearts they heard the truth of his words and adopted his dream as their own. With no way to know where the old one had gone, they hurtled themselves in different directions, vowing to seek their mentor and the brothers he promised they would find.

Yonada felt again the sad brimming of his tears. How grand and glorious it then had seemed. He wondered if Creche-teacher had ever found his dream. Perhaps in some corner of the universe another pupil had found it for him.

Yonada put his memories away. Once again, he turned his senses outward, extending his awareness to watch the nebula and its million birthing suns diminish in the distance. The cold darkness of space closed about him once more. For a moment, just before it vanished completely, an old sense of wonder re-emerged. It truly was still an awesome sight.

A free comet flashed by, icy and tailless in the dark, and Yonada observed the. The opposing spheres of a double-star traded fiery prominences. Near a pale yellow sun, the fragments of a shattered planet collided and began to reform a world as barren and bleak as the one before.

Yonada, alone, bore witness.

"Unthinkable, in all the universe, that we are alone," Creche-teacher had said.

Those words began to haunt Yonada, to mock him.

It might have been years or centuries later when Yonada found the planet. It might have been millennia. How could he measure the passage of time when time meant nothing to him?

From a distance, it appeared to be just another system. The sun shone a pleasing yellow. Several of its seven worlds struck him as quite beautiful. He sailed closer to examine them better.

Expanding his senses, he approached the outermost world. Almost immediately, a strange note vibrated through him. The barest red glow of surprise momentarily outlined his presence against the darkness. He calmed himself by humming the seven tones of the First Way, and the glow faded. Then with a caution that was not his nature Yonada moved closer and wrapped himself about the planet.

Voiceless, he cried with glee.

Cities not unlike those of his own Homeworld lay scattered over sprawling, cracked ice plains. Cities—the constructs of intelligent beings! Yonada studied the fine curves and weathered angles of each edifice. There were differences between these structures and those of Homeworld, yet there were similarities.

Absolute Magnitude

Yet through his excitement Yonada perceived a wrongness. He brought other senses to bear on the planet. He scanned swiftly. Necessary elements and compounds were present in abundance. Yet, even at bacterial levels he found no trace of life.

Who then built these cities?

Employing still other senses, he scanned again, this time noting higher-than-expected radiation backgrounds. An interesting anomaly. By itself that meant nothing.

Yonada took a new approach. He himself was proof that life could take non-physical forms. He reached out with his mind, pushing even into the caverns below the planet's frigid surface and into the depths of its ammonia oceans, seeking thought patterns.

No other mind greeted him. No life at all brushed his senses. If this world had fostered creatures once, they were gone.

Sadly, Yonada withdrew into space.

Creche-teacher would have called his quest successful. He had found cities on a far distant world, proof that the universe harbored life beyond the Homeworld. He should have been excited, yet Yonada felt no joy. He was still alone.

Bitter disappointment flickered along his edges. Turning slowly, he surveyed the way he had come and for the first time considered abandoning his quest. He thought of the cities below, and suddenly they made him yearn for Homeworld. He wept, and weeping, mourned for all he had lost, all he had given up.

Yet he chided himself. Too late now to think of Homeworld. The stars behind him looked as alien as those before. He no longer knew the way.

Grieving, he considered this system's six remaining worlds. Methodically, he enveloped the next four, scanned, analyzed, and left them behind, allowing himself to feel nothing.

The second planet from the sun floated like a green jewel in the blackness. Lush with vegetation, glittering with copper-colored oceans, it beckoned to him. He had seen such worlds before, though, and found companionship on none. He felt not even a tingle of hope.

The dark edge of the terminator crept forward as the sun slipped toward the planetary rim. Three moons glittered with reflected light. So, too, on an uneven ring of tiny, misshapen moonlets. It made a lovely ballet, yet it barely lifted Yonada's heart. He waffled across the void and settled like a mourning veil around the slowly rotating world.

"Brothers among the stars."

Creche-teacher's words screamed in his memories as the thought patterns of a million million beings shivered through him. Yonada flashed white with pain at the unexpected contact. Too many, too strong! He retreated to a distance equal to the diameter of the planet to recover from the shock and to sort his impressions.

Cities! Universities! Museums! Libraries! He drifted back and wrapped himself ever so gently around his precious new discovery. For the briefest instant, Yonada thought he had found Homeworld. That was wishful thinking, though. Homeworld was lost to him, perhaps forever. No matter, here were beings, creatures who could think.

Companions.

I must walk among them, he decided. I must have form again.

It had been a long while since he had worn a body. He reached inside himself, seeking the memory of how to make one. "Bound by flesh, the mind is helpless," came Creche-teacher's voice. "Set free, it is the source of ten thousand wonders." In physical form, Yonada would lose many of his wonderful senses. Yet he didn't hesitate. With

the smallest portion of his will he gathered molecules and free atoms from the planet's atmosphere. As he dropped toward the surface, he shaped and sculpted them according to a barely remembered image of his Homeworld form.

A moment later, Yonada stood upon solid ground in his new body. Tall and golden-skinned, he breathed for the first time in forgotten centuries. Hard pavement tickled the soles of his naked feet, and he wriggled his toes with child-like delight. Opening his eyes, he surveyed as far as his body's restricted senses allowed. He had descended to this world's largest city. Amid its teeming populace he took his first step. "How like Homeworld," he said aloud, laughing unexpectedly at the sound of his voice.

His arrival had not gone unnoticed. The startled inhabitants stared, seemed to hesitate, then began to press around him. Multi-faceted eyes shimmered with beautiful fire. Feathery antennae bent his way.

"Insectoid," Yonada voiced. "How interesting and delightful!"

Their thought patterns proved too chaotic to read. He stretched out his hand in the ancient gesture of greeting, his heart thumping with excitement. When he touched them, he knew, their thoughts would become clearer.

A mandible closed about his wrist. Yonada watched in silent surprise as the alien chewed it off. Blood splashed on the pavement at his feet. A series of wild sounds, not unlike a cheer, went up from the growing mob.

Yonada arched an eyebrow. If this was the customary response to a greeting on this world he did not think much of it. Still, it was an insignificant thing. The body was, after all, only a construct of his mind, a garment to wear in polite company, a focus for attention during the exchange of conversation.

However, the hand was pleasing to look at and had minor uses.

The insectoids gibbered, and the crowd lurched suddenly backward on itself. Yonada only smiled as the flow of blood ceased and a new hand replaced the missing limb.

A high-pitched chittering ran through the aliens. Antennae vibrated. Scratched forelegs scraped noisily, rubbed together at a frantic pace. Thin, membranous wings hummed in furious conversation.

They fell upon him, tearing golden flesh, rending his limbs. In astonishment, Yonada staggered back, but the creatures dragged him down to the ground. As swiftly as he regenerated a part the angry insectoids ripped it away. Finally, he stopped and merely watched as they went about the work of shredding his body.

I have offended them in some manner, he reasoned, his vocal organs long since destroyed. I must begin again.

Yonada levitated his torn and bloody form from the aliens' clutches and above their reach. Gazing down on the throng, he blinked in wonderment. Even with his limited senses he felt the intensity of their hatred like a destructive tidal force. Incomprehensible!

They had made his body an unaesthetic mess. Blood flowed from scores of lacerations. Both arms lay chewed on the ground below. Splintered bone jutted through the knee of his one remaining leg. *Unsightly*, he decided with an inner wince.

At a thought, fresh limbs and organs replaced the damaged ones. He floated above the aliens, whole again.

The noise of the crowd swelled. He tasted their rage delicately, puzzled, wondering how to approach them and make his new beginning.

They gave him no time to consider. Those insectoids with wings sprang into the air. Deadly stings pierced him. Spurred claws raked

Yonada

his flesh and eyes. Again and again the flying creatures strafed, struck and battered him, insanely bent on his destruction.

"Why do you not reciprocate my gestures of friendship?" Yonada called calmly. "I desire only companions!"

From the ground a scarlet ray flashed. Yonada felt the mildest tingle and looked down curiously at the charred meat his right leg had become. A second energy beam scorched the air, barely missing him, but slicing neatly through one of his winged attackers. Still another beam fired, splitting open the thorax of yet another flyer.

With regenerated eyes, Yonada spotted the energy weapons. A line of insectoids, larger and stronger than the others in the mob, formed ranks in the street. Metal cylinders, all trained on him, glinted between their forelimbs.

A word scarcely used on Homeworld echoed up through his memories. *Soldiers*.

Crimson beams knifed through the sky, incinerating his body. Subbornly, Yonada fashioned another. In a final effort, he raised his hands to express surrender. Perhaps they would communicate if they thought him helpless.

"Peace!" came his anguished cry. The resulting rawness in his vocal chords startled him, but he had little time to analyze the marvelous sensation.

A squadron of flyers flew straight for him, wings humming. The soldiers below fired their weapons.

Yonada screamed in frustration and dodged his airborne assailants. The sky sizzled with a lacework of energy beams. He threaded a course between them. The determined flyers gave chase, heedless of the danger, and the air lit up with flashes of death.

The unarmed, unwinged populace began to crawl up the sides of their buildings, up the very spires and pinnacles, clattering and clacking mandibles. Clinging to the structures with one set of legs, they leaned out for him, reaching with their other appendages. When the flyers and the beams failed to force him into their clutches, they began to leap outward in futile, fatal efforts to snatch him from the air.

Yonada watched it all in mute horror. A leaper fell to his death, crushing a soldier on the ground. A ray scorched his shoulder, but its main force struck a flyer, searing its wings, sending it plummeting like a fiery star.

"They will kill each other to slay me," he realized. "I must meditate on this."

Abandoning his body, Yonada withdrew into the solitude of space. A small part of his consciousness watched as his fleshly garment fell among the squealing aliens. They swiftly devoured it. They consumed their own dead in like manner and then returned to their normal tasks as if nothing out of the ordinary had occurred.

Ever so subtly, Yonada wrapped himself about the planet. For ten solar revolutions, he observed and studied. For a while, his loneliness abated. He thought only occasionally of Creche-teacher and of Homeworld. Instead, he gave himself to the great puzzle below.

The Katrini, as the aliens called themselves, were intelligent, progressive, possessed of a rapidly developing technology. Daily, he watched their primitive spaceships as they attended the satellites and orbital laboratories that he had first mistaken for tiny moonlets.

While he watched, Katrini scientists made major advances in seven separate sciences.

Highly refined agricultural techniques yielded rich crops of grains to feed the fat herds of domestic animals on which the Katrini fed. They were carnivores. No meat went to waste, as Yonada had already noted, not even their dead.

The history, art and culture of the Katrini opened to Yonada's probing senses. A strange respect, even admiration for the outward expressions of the Katrini way slowly grew within him. He longed to walk among them, to ask questions, to learn the secret mysteries hidden in their unreadable thought patterns.

One question yet plagued him, though.

The Katrini were a martial race. If he had learned nothing else during his observation he knew that much. He had witnessed the periodic and savage wars that kept the swiftly growing population in check, watched as the victors consumed the bodies of the conquered in grisly and glutinous rituals. And he had watched victorious armies march back to homes and cities that had, in turn, been ravaged by other armies in their absence. So much of the advancing technology went toward the design and development of weapons and defense systems. Katrini scientists labored unceasingly to find new, more efficient ways of killing.

Yet none of that explained why the Katrini had fought so furiously, so insanely, for the destruction of one lone and lonely visitor.

Yonada decided it was time to learn the answer.

He meditated once more, reflecting on his first visit to the surface, considering as he had many times before, the errors he thought he had made. His Homeworld form was as alien to the Katrini as theirs to him. This time he would wear a Katrini body. Nor would he appear in the middle of a busy street or a crowd. He would choose a single Katrini and a very quiet location.

This time, he hoped, he would make a friend.

The Katrini guarded their cities well even at night. The military had grown ever more dominant in Katrini life of late. Armed soldiers patrolled the unlighted streets and perimeters with drilled precision, working like the non-sentient insects of Homeworld, in tightly coordinated teams.

From the darkness of an isolated alley, Yonada waited for a patrol to pass, unconsciously rubbing his spurred forelegs together in anticipation. He took a genuine delight in his new body. Oddly distorted images presented themselves to his multi-faceted eyes, and the wind tickled his soft antennae as well as the short hairs on his thorax. Starlight made a beautiful gleam on his translucent wings and chitonous skin. All in all, he thought himself quite beautiful.

When he thought it safe, he scuttled across a road to a high gate. To his surprise, the gate and the wall were made of a glass-like substance he couldn't seem to climb. He didn't wish to fly; the humming of his wings might give him away. Peering around, he quietly levitated himself over, and glanced around again. At the center of the compound stood a single building—a Katrini observatory.

After careful consideration, Yonada had decided to seek a creature of learning and science, one who evidenced a curiosity about space and the wonders of the universe. Surely such a being would listen to his story, understand what Yonada represented, and perhaps even become his friend.

He extended his senses, not relying on the insectoid's primitive organs, and found the tunnel that made the observatory's entrance. It was not sealed, and he crept down it as quietly as he could.

The tunnel opened into a vast, domed chamber. A towering spear of metal, a Katrini telescope, occupied the center of the floor. The dome was closed, the equipment not in use. A single scientist bent over a work-table studying diagrammatic representations of the nearest stars.

Absolute Magnitude

Touch him, Yonada said to himself, reaching out as he stole forward. His thoughts will become clear when you touch.

Before he could close the distance the alien whirled around. For the briefest moment it froze, antennae quivering. Then it let out a shriek and charged with raised forelegs.

Astounded, Yonada stood his ground. The insectoid reared higher on its hindmost legs as it reached for him. He stared straight into the grinding, gnashing mandibles and jaws, then howled in anguish at the only course left to him.

On Homeworld they called it the Forbidden Way. "It is against nature and contrary to the Great Eighty-One Ways," he heard Creche-teacher's stern voice, "for one to forcefully impose their will on another living being."

For ten of Katrina's solar revolutions he had meditated and prepared himself for this moment, but not for this. Still, if another way remained, he was blind to it. "Forgive me, Creche-teacher!" he cried aloud, "but I must know!"

He brushed aside the scientist's forelimbs, and the two clashed, locking mandibles. That contact was enough. He exerted his will, and the scientist stopped in mid-attack, every muscle of his insectoid form conquered and ruled by Yonada's mind.

The Katrini proved strong; he struggled bitterly against his mental bonds. Yonada felt the turmoil in the insectoid's mind, its horror at the helplessness of its body.

Revulsion and shame filled him. He would pay a debt for this act, of that he was sure. He prayed the knowledge he sought would be worth the price—knowledge that, in time, would win him understanding, and more, the companionship of these creatures.

Drawing a deep breath, he opened his mind to sift the astronomer's thoughts. Slowly at first, moving carefully, he slipped past the barriers of fear and hatred. Primal instincts he had not even suspected rose up and battered him, tried to force him out. But he pushed in, acutely aware of the alien's psychic screams.

Yonada began to tremble as he plumbed the depths of Katrini self-perception. An undeniably loathing grew in him. At first, he thought it only an echo of the alien's emotion. But the loathing was his own rising fear. The force of it startled him. With considerable effort, he mastered and set it aside. Only then could he communicate.

The insectoid's thoughts began to take form. Suddenly, they rushed upon him like a flood.

"Alien!" It screamed. "Monster! Not-Katrini! Death to you!"

Yonada felt his wings vibrate with surprise, his physical body responding to the Katrini. Somehow, it saw through his outward form. He sent a thought into the alien brain. *Why do you fear me?*

"Not-Katrini!" the creature shouted back. "Fear you? No! Kill you!" It paused under a tidal rush of memories. "You are that thing that walked in our sky ten anghz ago. Failed to kill you then! Die now!" The Katrini's mind writhed in Yonada's psychic grip, but its body remained motionless.

Fascinating. This alien not only saw through his form, but recognized him from his first visit. Physically, the insectoid sensory apparatus were not that sophisticated.

I mean you no harm, Yonada sent, trying to soothe. I want only your companionship and a chance to share knowledge with your people.

"Alien!" the creature shrieked with unbridled vehemence. "Not-Katrini! Felt you didn't die! All the anghz, Katrini feel you! Search, but couldn't find you!" It tried to lurch forward, achieving the

barest quiver in the second leg on its right side. "Kill you now!" it raged. "Kill you like disgusting N'gaie monsters!"

N'gaie monsters?

Yonada caught an image flash and pushed deeper into the Katrini's thought patterns, seeking information about the N'gaie. Ignoring the insectoid's prejudice and hate-filled distortions, he saw peaceful beings, white-furred against the cold of the outermost world. The seventh planet had been their home. Yonada had stood among their cities.

"You destroyed them!" he cried in horror.

When the first Katrini exploratory mission discovered the N'gaie, the crew went insane. Not, however, before sending a transmission back to Katrina. An insectoid armada returned, armed with radiation bombs and high-energy weapons. In less time than it took to make the flight they obliterated the defenseless N'gaie.

Yonada shut his mind against those images and trembled—all his questions frighteningly answered.

The xenophobic Katrini were compelled to destroy anything *not-Katrini*. Their very genes commanded it. That was the secret that had clued him through his long meditation. Deep in his mind, he let go a howl of grief.

I wanted your friendship, he whispered, unconsciously creating tears for eyes that had no natural ducts. I wanted company to ease my loneliness!

"Alien!" the insectoid screamed. "Not-Katrini! Kill you, then find your people and kill them all! Search the stars! All Katrini die to find and kill you!"

Yonada shook with sorrow. To be alone on such a crowded world. To come so far so long and find no friend! What profound words would Creche-Teacher say, what quotation from the teachings would he offer to soothe him now?

So deep was the pain, so great the hurt that he let his bond slip from the Katrini scientist's mind. In an instant the alien was on him, tearing his chitonous flesh with serrated mandibles, ripping his wings, crushing his body. Yonada ignored the injuries and the creature's rantings. Pushing the Katrini away, he fled the chamber through the tunnel and emerged into the dark, three-mooned night. The alien followed, attacked him again, severing Yonada's rear legs as it attempted to drag him down.

A red light blasted open the compound gates, and the air hummed suddenly with the sound of wings. Katrini streamed into the grounds, street patrols and civilians, alerted by the scientist's chittering cries. They turned toward Yonada, recognizing him, knowing him instantly and instinctively as *not-Katrini*. With insane fury they set upon him.

An anguished cry burst from Yonada as he cast off his Katrini form and rose weeping into the sky. Though they could no longer see him, the Katrini turned away from the empty shell, sensing he was no longer part of it. Gleaming eyes swept the sky, seeming to follow his ascent. A soldier raised his weapon. A crimson beam stitched the darkness. Another fired, his beam criss-crossing the first. Suddenly, every Katrini with a weapon fired, sweeping the night in a desperate attempt to snag him. More Katrini poured out of their homes, filling the streets. Those with wings took flight, raked the air, seeking an intangible enemy whose presence they could only dimly perceive.

Yonada reeled with the senselessness of it.

A score of missiles launched upward from a hive on the city outskirts and flashed harmlessly through him. Finding no solid target, they fell on another city on another part of Katrina. In short time, that city launched a retaliatory strike.

Yonada

Madness swept across the planet. City after city joined in the destruction. Missiles, bombs, energy weapons stained the night, carving hideous scars upon Katrina's face.

Yonada had never known such pain or horror. He couldn't shake the feeling that, unable to destroy him, a world was choosing suicide. He was the cause of this devastation, and guilt filled him.

He wrapped himself about the planet and exerted his will. With all his power he strove to end the fighting, but not even he could dominate so many creatures, and his efforts only reminded the Katrini that he still survived. It drove them to even greater violence.

One by one the cities died. A continent fell silent, then a hemisphere. Radiation poisoned the air, and a last outpost expended its arsenal. The final missile rose, fell, burst. A veil of death settled over the planet.

Yonada curled about Katrina as a father might hold a dead child. All his senses told the same story. A voice stirred up harshly from his memories.

"All Katrini die to kill you!"

Creche-teacher had not prepared him for this. Nothing in all his cons of experience had prepared him. He wanted companionship, a brief draught of conversation to slake his loneliness. Only the wind in the ashes talked to him now, and they spoke with the scientist's voice.

What could he do now? Where could he go?

The radioactive heat of Katrina's surface slowly cooled. On the outermost world, the cities of the N'gai gradually froze over and vanished beneath the ice.

Yonada watched it all, meditating, praying for understanding.



Absolute Magnitude

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Book Reviews

Reviews by Lucas Gregor

Bending the Landscape: Fantasy, edited by Nicola Griffith and Stephen Pagel. Borealis, 362 pages, hardcover, \$19.99; ISBN 1-56504-836-9

Pagel and Griffith have put together a landmark anthology. I am certain that *Bending the Landscape* will be remembered as one of the most important anthologies of the decade. The stories in the fantasy volume are powerful and accessible. This is a must-read. The stories cover a surprising amount of ground and scope. My favorite was "Fall of Kings" by Delia Sherman and Ellen Kushner. The writing was solid throughout the anthology, not a bad story in the bunch.

Shadow Warrior, Book Two: Hunt the Heavens by Chris Bunch. Del Rey, 214 pages, paperback, \$5.99; ISBN 0-345-38736-8

The second book in this series picks up where the last one left off. As with the first, the writing is solid and fast paced. Bunch knows how to pull the reader along from scene to scene. The adventure comes fast and furious. This time around, Joshua Wolfe has a side kick: Taen, who is the last of the Al'ar. At least we are led to believe that he is the last. The two are searching for a secret, a secret powerful enough to destroy the universe. I'd recommend going along for the ride.

Edgeworks by Harlan Ellison. Borealis Legends, 433 pages, hardcover, \$21.99; ISBN 1-56504-960-8

Edgeworks is comprised of two earlier anthologies, *Over the Edge* and *An Edge In My Voice*. This omnibus edition is lovingly put together of the finest quality materials. It's a very impressive tome. Ellison adds a new introduction entitled "Good Morning Folks; I am not Kathie Lee Gifford." He has lost none of his brash style.

Over the Edge starts the collection off. It has a good mix of fiction and nonfiction. Not a bad choice as an introduction to Ellison for readers who aren't already familiar with him. That is of course if there are any reader who

aren't already familiar with him.

An Edge In My Voice is brilliant. I just couldn't put this section down. It was a fascinating study of a remarkable man during troubled times. *An Edge In My Voice* originally appeared as an opinion column in *Future Life* and then in the *L. A. Weekly* after the demise of *Future Life*. Ellison takes on all of the major subjects of the day in the columns. He pulls no punches and takes no prisoners. I don't believe I've ever read a gutsier column.

If you haven't already picked up *Edgeworks*, do!

Ancestor's World by A. C. Crispin and T. Jackson King. Ace, 304 pages, paperback, \$5.99; ISBN 0-441-00351-6

This is the sixth novel in A. C. Crispin's Starbridge universe and it fits quite well into the series. T. Jackson King is a professional archaeologist and he uses that to great advantage in *Ancestor's World*. I was just as fascinated by the details of the archaeology procedures as I was by the unfolding of the plot. Most novels that deal in any way with archaeology usually read like bad imitations of the Discovery Channel so it was nice to see something of this sort from a professional in the archaeology field.

The novel opens with the discovery of artifacts from the lost colony of the Mizari in a tomb of an ancient Na-Dinan emperor. This is a discovery that the modernist faction of the Na-Dina do not want getting out, and some of them will do anything to keep it under wraps. What follows is a tightly plotted, suspenseful novel.

The Stainless Steel Rat Goes to Hell by Harry Harrison. Tor Books, 256 pages, paperback, \$21.95; ISBN 0-312-86063-3

Slippery Jim DeGritz is back and better than ever. It's been a while since the last Stainless Steel Rat adventure, but Harrison hasn't lost the light satirical touch that makes this series such a joy to read. The novel opens with DeGritz on the pleasure planet Lussuo, bored nearly out of his mind.

Of course this can't last. Jim's wife, Angelina, disappears under mysterious

circumstances and the Stainless Steel Rat is off on another grand adventure.

The Demolished Man by Alfred Bester. Vintage Books, 243 pages, trade paperback, \$11.00; ISBN 0-679-76781-9

The Stars My Destination by Alfred Bester. Vintage Books, 258 pages, trade paperback, \$11.00; ISBN 0-679-76780-0

A lot of ink has already been spilled reviewing these two masterpieces, and I'm not sure that I have anything worth saying that hasn't already been said. It's good to see these two books in print again. If you haven't already read them, run out grab 'em. It'll be well worth your time.

Year 1, A Time of Change edited by Edward J. McFadden & Tom Piccirilli. PWP Books, 98 pages, trade paperback, \$9.99; ISBN 0-964-01684-2

Year 1 is the second book from Pirate Writings Publishing, the people who bring you *Pirate Writings*. It's a solid anthology. The premise behind this anthology is that every story takes place one year after a major event has changed the world as we know it. As it turns out, all of the changes are disasters of one kind or another. For the most part the anthology is quite dark. I'd be interested to know whether it's dark because that's what the editors were after or because that's what the writers sent them. Still, it's a very professional package and I enjoyed it.

The Final Encyclopedia, Volume One by Gordon R. Dickson. Tor Books, 349 pages, hardcover, \$25.95; ISBN 0-312-86288-1

The Final Encyclopedia, Volume Two by Gordon R. Dickson. Tor Books, 350 pages, hardcover, \$25.95; ISBN 0-312-86289-X

Gordon R. Dickson has finally completed the Dorsai cycle. It's the work of a lifetime and an accomplishment worthy of a Grand Master. The two volumes comprise the ten Dorsai volumes. For my money these are some of the best military SF novels every written. Tor has done a great job with these. This is a must-have for any Dickson fan.

Absolute Magnitude

Thunder Mountain by Uncle River. Mother Bird Books, 189 pages, trade paperback, \$11.00; ISBN 1-883821-10-X

Thunder Mountain is essentially an antieestablishment novel. The military is staging some dangerous things on Thunder Mountain, things that the spirit of the mountain is not the least bit pleased about. The spirit of the mountain finds an ally in the protagonist, Harry Upton, a young, pot smoking ex-con. Like life in Elk Stuck, the pace of this novel is slow and gradual. Despite this it's still a pleasure to read. Since Uncle River knows his subject matter well, he knows how to keep the reader interested, even when nothing's happening. Things heat up as the book moves along and the ending is quite satisfying.

Reviews by Ben Silver

Star Trek Chronology by Michael Okuda and Denise Okuda. Pocket Books, 342 pages, oversize trade paperback, \$25.00; ISBN 0-671-53610-9

This is without a doubt the most complete chronology I've ever seen. The Okudas have been very, very thorough here. This oversized tome is filled with full color stills from the movies and television episodes. It's beautiful, it's glossy, it's impressive, and at \$25 it's a bargain; if you're a Trekkie you need it.

"These are the Voyages . . . ". A Three-Dimensional Star Trek Album by Charles Kurtis. Pocket Books, 8 pages, hardcover, \$35.00; ISBN 0-671-55139-6

Yes, this book is only eight pages, but it's the coolest pop-up book I've ever seen. There are pop-up scenes within pop-up scenes, effectively doubling the page count. Some of the scenes move, and the art is simply amazing. Just a lot of cool fun.

The Voyage of the Bassett by James C. Christensen with Renwick St. James and Alan Dean Foster. Artisan, 168 pages, hardcover, \$29.95; ISBN 1-885183-58-5

The Voyage of the Bassett is one of the best illustrated books I've ever seen. Virtually every page sports an illustration of some description. They range from lavish full color paintings to whimsical pen-and-inks. The craftsmanship is just wonderful. Interspersed throughout the art is the story of the *Bassett's* voyage. The art really helps bring to life this wonderful story. The book is so beautiful I was almost afraid to read it.

The Sci-Fi Channel Trivia Book edited by John Gregory Betancourt. Boulevard Books, 422 pages, trade paperback, \$15.00; ISBN 1-57297-110-X

Do you know where *The Day the Earth Stood Still* took place? You will after you pick up a copy of this book. It's filled with all kinds of trivia about sci-fi movies as well as some great pictures. It's a lot of fun for the sci-fi movie buff.

Reviews by Pam Meek

The Lost Ones, by Kevin J. Anderson and Rebecca Moestra. Boulevard Books, 232 pages, paperback, \$4.99; ISBN 1-57297-052-9

Lightsabers by Kevin J. Anderson and Rebecca Moestra. Boulevard Books, 232 pages, paperback, \$5.99; ISBN 1-57297-091-X

Darkest Knight by Kevin J. Anderson and Rebecca Moestra. Boulevard Books, 226 pages, paperback, \$5.99; ISBN 1-57297-129-0

I must give Kevin J. Anderson and Rebecca Moestra their due: they have crafted a brilliant story in the finest tradition of *Star Wars*. The action is fast and heavy, the plot runs smoothly overall, and the characters are rich and vibrantly crafted. The Young Jedi Knights series, written for young adults, is an example of *Star Wars* at its best.

Anderson and Moestra have chosen to create an underlying story that spans all of the Jedi Knights series, and it is here that the story reveals its greatest strengths and weaknesses. Each book has an individual plot that builds on the total story. *The Lost Ones* delves into the story of Zekk, a young street urchin strong in the ways of the Force, who is a friend of twins Jacen and Jaina Solo, Han and Leia's children. As the story unfolds, Zekk is tempted to the Dark Side by Brakiss, a former student of Luke Skywalker's who is now the headmaster of the Shadow Academy, a school formed to train Dark Jedi.

Although succinct and brief, there are a large number of allusions to the plots of other *Star Wars* books, including *The Courtship of Princess Leia* by Dave Wolverton, written for the adult audience. The multiple allusions derail the subplot of the book yet enhance the story of the series. Less experienced readers and learning-disabled readers may have difficulty with these interruptions. Despite this, *The Lost Ones*, like the Young Jedi

Knights series as a whole, is very well written. Adolescents and adults alike will find the storyline intriguing. Older children will appreciate the reality of losing a friend to something that is not necessarily good for them; younger children, however, may come to parents with difficult questions about choices and friendship. These books are an excellent bridge for *Star Wars* lovers, young and old.

The series continues with *Lightsabers*. Jacen and Jaina have returned to Yavin IV to complete their Jedi training. They have come to learn how to build their own lightsabers. The story is well written, and *Star Wars* fans will find the explanations of how to build lightsabers fascinating. The plotting is smooth, the action fast-paced.

Anderson and Moestra are to be applauded for the understated lesson provided by Tenel Ka, a good friend of Jacen and Jaina's who loses her arm in a lightsaber accident. The authors do a superb job examining the emotional and psychological effects that a handicap such as the loss of a limb can cause. The accident creates wonderful opportunities to show that handicapped does not mean helpless, and in the process, teaches a valuable lesson to readers of all ages, without sounding preachy or pretentious.

Lightsabers is the fourth book in the series, and younger readers may have a difficult time extrapolating the background. The plot itself, however, is remarkably separate from the series storyline and contains fewer distractions to the story. It is by far the best in the series so far, and is an excellent book for readers of all levels and abilities.

Darkest Knight, the fifth in the series, picks up the story of Zekk. While the description of the action and characters remains vivid, Anderson and Moestra stumble in the quality of the storyline. They fail to expand on the emotions and peril of the characters, particularly that of Zekk, the young Dark Knight.

We see more of the training that Zekk goes through to become a Dark Jedi here than in previous stories. At one point he is forced to kill his chief rival in a lightsaber duel, and although we are told his emotions are in turmoil we never find out what he actually feels. The reader receives no sense of the conflict he must be undergoing as he is drawn deeper to the Dark Side, and thus the climax, when he confronts Jacen and Jaina with the darkness he represents, fails to emotionally involve the reader. Instead, the book becomes one meaningless action sequence after

Book Reviews

another, punctuated with more examples of how the Solo twins are amazingly strong in the Force.

While the book itself is still smooth and easy to read for most learning levels, the lack of emotional examination between Zekk, Jacin, and Jaina undermines the overall storyline. There is no further growth or lessons that adolescents can identify with, and fans of the previous novels will find the book readable, but dry and somewhat lacking. Somehow, quite unfortunately, the heart of *Star Wars* got lost in this one.

***Lyric's World*, by Nancy Richardson.** Boulevard Books, 113 pages, paperback, \$4.50; ISBN 1-57297-068-5

***Promises*, by Nancy Richardson.** Boulevard Books, 114 pages, paperback, \$4.50; ISBN 1-57297-097-9

Lyric's World is a part of the *Star Wars* saga written for preteens. It details the adventures of Anakin Solo, the youngest son of Leia and Han Solo. Anakin has just joined the Jedi Academy on Yavin IV. Like the Young Jedi Knights series by Kevin J. Anderson and Rebecca Moesta, Junior Jedi Knights has an underlying storyline that passes through the entire trilogy, and again it is here that the greatest strengths and weakness of the series is found.

Children of a younger reading level will enjoy this book; the sentences are smooth and the words appropriately suited for the preteen age level. With a certain suspension of disbelief, parents may enjoy reading this book with their child. Unfortunately, the plot is made choppy by constant references to the underlying story. As a teacher, I believe that children with a high level of reading comprehension will be able extrapolate the underlying plot, but the entire idea of a subplot, which works in the Young Jedi Knights series to create a richer storyline, is simply too complex for younger readers.

In writing *Promises*, Nancy Richardson was unable to overcome a difficult obstacle: making the reader believe that a nine-year-old boy could live for a week on Tatooine without food or water.

Promises had a great deal of potential, but failing to make its plot even remotely believable caused the story to fragment. The writing style became choppy, the plot leaping to touch on misadventure after misadventure without pausing to savor the details. In addition, the vocabulary and grammar are unsuited to the preteen age group at which it is

aimed. The sentences are long and complex, the vocabulary better suited to middle school than elementary. Many children of that age won't know such words as "desolate," "candidate," or "academy."

The story does create a believable friendship between Tahiri and the youngest son of Leia and Han Solo, Anakin Skywalker. One of the strongest aspects of the book is its continued emphasis on loyalty to friends who have earned it. The characterization is rich and the relationship between the two children warm and believable. Younger children may have difficulty with Tahiri's parents being murdered, and parents may find themselves needing delicate explanations on the process of coping with grief. All in all, *Promises* fails to deliver, missing the age group it was intended for.

Reviews by Angela Kessler

***Trials and Tribble-ations*, by Diane Carey.** Pocket Books, 180 pages, paperback, \$3.99; ISBN 0-671-00902-8

This *Star Trek: Deep Space Nine* book is a novel of the recent (and already legendary) *DS9* episode in which Sisko, Dax, Odo, Worf, and Bashir go back in time to Space Station K-7 at the time that James Kirk, the original *Enterprise*, and the tribbles are there. I have to say that reading a novelization simply cannot match the experience of watching the episode and seeing the *DS9* characters flawlessly inserted into the same shots as the characters from *Classic Trek*. However, Diana Carey is a good writer and she does an excellent job with this. The characters' awe for the original *Enterprise* and her crew, and the affectionate nostalgia with which they regard the old-style uniforms and equipment, are handled especially well. And Ronald D. Moore's afterword and David Gerrold's touching introduction are, by themselves, almost reason enough to buy the book. At 180 pages and \$3.99, this is a quick, inexpensive, and very entertaining read.

***First Contact*, by J. M. Dillard.** Pocket Books, 276 pages, hardcover, \$21.00; ISBN 0-671-00316-X

This is by far Dillard's best *Trek* novelization to date. While again, reading the novelization can't compare to watching the movie, I did enjoy reading this. In particular, I liked the fact that the character of Lily is fleshed out a bit more; we never really got inside her head in the movie the way that we do in the book. And somehow reading this

really drove home both what an excellent job Jonathan Frakes did directing this movie and how great an actor Patrick Stewart is: every ounce of Picard's fear, revulsion, hatred, and single-minded desire for revenge against the Borg that is in the book came across loud and clear on the screen without ever seeming overplayed. Also included are an interesting 30-page section by Judith and Garfield Reeves-Stevens on the making of the movie and eight pages of glossy color stills from the movie. So, after you see the movie, pick up the book for a peek behind the scenes.

Reviews by Joe Mayhew

***Neverwhere*, by Neil Gaiman.** BBC Books, 287 pages, £9.99 (British edition)

Under the London Underground. If the *Sandman* graphic novels were all Gaiman had to show, he would be worth watching as the man who raised comic to the graphic novel without losing their zing. His award winning collection *Angels and Visitations*, however, certainly puts him on the map as one of the top literary fantasy writers going. *Neverwhere* is Gaiman's entry into the TV series genre. This novelization still feels a bit like a TV script, but that may not be a fault. It is brisk, highly visual and very hard to put down.

Its hero, Richard Mayhew, has come to London's "City" to work in securities and into the control of his fiancée, Jessica. On his way to a meeting with her celebrity publisher employer, he stops to assist an injured girl:

"...she's bleeding."

Jessica looked down at him, nervous and puzzled. "We're going to be late," she pointed out.

"She's hurt."

Jessica looked back at the girl on the pavement. Priorities: Richard had no priorities.

We then meet Mr. Croup and Mr. Vandemar, two of the loveliest villains in any work of fiction. Richard is sucked into a sort of diabolical fairyland beneath the "real" London and into the life of the injured girl, Lady Door, the last of a murdered family of openers that someone has hired Croup and Vandemar to capture. That pursuit is both comic and horrifying.

The series will hopefully make it to American TV. It is available from BBC Consumer Publishing on audio and video cassette and on CD. In June 1997 an international edition will be published in America which explains much of the London material that might confuse American readers.

Absolute Magnitude

Idoru, by William Gibson. G. B. Putnam's Sons, 304 pages, hardcover, \$24.95; ISBN 0-399-14130-8

Gibson lit. Colin Lancey, a computer wank and Chia McKenzie a 14-year-old cult-fan of the cyber rock Lo'Rez band, are drawn into a sort of detective adventure to find out what they can about media goddess Rei Toei, The number-one Japanese "idoru." Rez, the band's leader, has declared that he will marry Rei Toei. The complication is that she is not a creature of flesh and blood, but rather a virtual personality, entirely the product of technology. Rez, a creature of re-mastered tapes and video illusions, is virtually a created image himself, and like is drawn to like.

Idoru is not made of the dense, complex Gibson stuff of *Neuromancer*; but rather, a tongue-in-cheek self-parody, perhaps even a bit of vengeance on the many trivializers who have extruded bad cyber-punk like so much garbage and sawdust-filled sausage. That does not mean Gibson's habitual readers won't love it. It reads like popcorn, but like popcorn spiked with a bogging dose of brain-candy. His wunderkids are still jacked-in and mightily hacking; however, they often appear foolish enough to turn off the daydream-adventure crowd.

This is a sneaky book. As Gibson's character Jun says, "A load of bollocks, dear. Evolution and technology and passion; man's need to find beauty in the emerging order; his own burning need to get his end in with some software dolly wank toy. Balls. Utter."

The Wall of the Sky, the Wall of the Eye, by Jonathan Lethem. Harcourt Brace, 294 pages, hardcover, \$23.00; ISBN 0-15-100180-4

Kafka (sorta) lives! Lethem is a young writer who has smashed his way into the respect of his fellow writers with the kind of ideas many would kill for. Sometimes he doesn't do all that he could with one of his visions, but he does enough to make them more than worth reading. This collection includes: "The Happy Man" (commuting part-time to hell), "Vanilla Dunk" (artificially enhanced basketball players), "Light and the Suffere" (being conscience-ridden by aliens), "Forever, Said the Duck" (how virtual creatures make it through the night), "Five Fucks" (sex as a reality-warp), "The Hardened Criminals" (lifers literally embedded in the prison's wall), and "Sleepy People" (billeting the army of the night). Kafka probably could have done better with these ideas, but Lethem will make a lot of people want to write—and read.

Review by Stephen Pagel

Dragonseye by Anne McCaffrey. Del Rey, 368 pages, hardcover, \$24.00; ISBN 0345-38821-6

- This is our fourteenth visit with the great Dragonriders of Pern. *Dragonseye* takes place only 257 years after the settling of Pern; the settlers' computers are failing, thus loosing the settlements' stored knowledge, and to make matters worse the predicted time of Threadfall is approaching!

McCaffrey has written another winner. Since this novel is a prequel its excitement doesn't hinge on the usual will they survive, will they succeed scenario. We know the characters had to have succeeded. What McCaffrey has done is introduce us to a wonderful group of characters and allowed us to interact with them during this time of great change.

Chalkin, Lord Holder of Bitra, doesn't believe that there will be a Threadfall. However he is willing to use the situation to his own monetary advantage. K'vin', Weyrleader of Telgar, knows that thread will fall. Can he be ready for it? Will Debra, who ran away from her hold in the hopes of becoming a dragonrider, succeed? Can Clisser, the head of the teachers and retrieval holds, find new ways of doing things before he loses all of the computers? Interwoven with these questions are the thoughts of the dragons themselves. They were bred to fight the Thread, but this generation has never fought Thread; can they do it?

To say that McCaffrey has done it again is an understatement. Looking into *Dragonseye* you will find yourself and the people that you know reflected in the characters of Pern during this time of great upheaval.

Reviews by John Deakins

War of the Worlds: Global Dispatches, edited by Kevin J. Anderson. Bantam Books, 274 pages, \$22.95; ISBN 0-553-10353-9

This collection is billed as "The Martian Invasion of Earth, As Witnessed by Jules Verne, Mark Twain, Emily Dickinson, Henry James, Albert Einstein, Rudyard Kipling, Teddy Roosevelt, and Many Other Notables Worldwide." The various stories are set in 1900, in H. G. Wells' *War of the Worlds* universe. Stellar contributors include Gregory Benford, David Brin, Barbara Hambly, Robert Silverberg, Allen Steele, Connie Willis, and Mike Resnick. The other fourteen contributors may not be as familiar, but they perform as

nicely as the masters do. The research that each contributor put into his or her subject is evident. For all that, however, the ride is bumpy for the reader.

Anderson evidently had the same trouble herding his strong-minded charges into a single pen as Robert Asprin had in assembling the "Thieves World" series, under similar conditions. Paris is destroyed in two contradictory accounts. The Martians' feeding techniques are shown three times, but one differs markedly from the others. Doug Beason's story featuring Albert Einstein and Dave Wolverton's "Jack London" tale imply Martian technology far more advanced than the other stories do. A theme throughout the book is the parallel of violent (attempted) Martian colonization to the human colonialism of 1900. The Congo, China, and India eject their European overlords as a by-product of the Martian invasion.

The astute history and literature student will enjoy the constant insider name-dropping. The most fun stories are Silverberg's replacement of sci-fi H. G. Wells with literary Henry James, Howard Waldrop's Texan "Night of the Cooters," and Connie Willis' pun-laden putdown of (deceased) Emily Dickinson's defeat of the Martians with rampant literaryism. Mike Resnick's "Teddy Roosevelt" story and the Benford/Brin "Jules Verne" tale try too hard.

Anderson's collection fails to achieve the smooth performance of a single author. Turfdove's "Worldwa" series, for example, does a much better job on the human-ingenuity-versus-alien-invader's theme. Still, despite its uneven delivery, the book is enjoyable.

Ancient Shores, by Jack McDevitt. HarperPrism, 302 pages, hardcover, \$22.00; ISBN 0-06-105-207-8

Mr. McDevitt has produced a story that will keep you turning pages, but an ending that will make you disappointed that you did.

A sailboat is unearthed in a North Dakota field, made of a stable, indestructible trans-uranic element. It once sailed Lake Agassiz, a lake covering parts of Canada and North Dakota ten thousand years ago. The book's protagonists locate the dock for the high-tech boat, along the escarpment that was once the lake's shore. It contains a still-operational matter transmitter, with access to many other worlds. The possibilities of those worlds are barely explored, and the equipment's original builders never appear.

Book Reviews

The book's conflicts arise from the problems of its well-developed characters. The nearby Sioux nation has as good a claim on the discovery as anyone, and they fully exercise it. Unwillingness to relinquish control of new worlds to a government which once took away their world ends in armed confrontation.

Point of view jumps omnisciently from character to character, jarring, but well done. The main protagonists—aircraft collector Max and African-American chemist April—have an almost-romance, but Max is (believably) sometimes less than the hero to defend their ever-growing discovery.

The world economy is in chaos in the face of technology that could produce indestructible cars, clothing, or houses. Hostile forces are closing in to try to seize the transmitter (and destroy it). A reluctant American president orders in government forces: Indians, violated civil rights, confiscation of personal property, and all.

At this point, McDevitt goes wrong. He has dug the writer's obligatory pit and pushed his characters into it. However, the hole is too deep. The world would react adversely to new, upsetting technology, true, but not to a technology centuries beyond our duplication. The pit is so deep that McDevitt can only rescue his characters by a literal *deus ex machina* by the *Heroes of Science*. Ick.

It leaves a bad taste. An otherwise promising book ends without a single conflict truly resolved. Perhaps the publisher intends a sequel, but its going to take a lot to fill that hole enough for the characters to clamber out. We'll see.

Hammer and Anvil, by Harry Turtledove, Del Rey Books/Ballantine Books, 372 pages, paperback, \$5.99; ISBN 0-345-38048-7

Turtledove has returned to his Videssian universe with a third book series. The four "Lost Legion" books introduced the epic sweep of the mature Videssian Empire. Half a million words later, Turtledove still had readers on the edge of their chair. In his "Krispos" series, he moved backwards in time to trace empire-building Emperor Krispos, in three How-To-Be-An-Emperor books.

"The Time of Troubles" leaps backwards again a hundred and fifty years. His new series has already been launched in *The Stolen Throne*. That book took place in the land of the Makuran King of Kings, Videssos' major competitor. (*The Stolen Throne* is, in fact, a better book than *Hammer and Anvil*,

principally because it takes place outside the Empire.)

With *Hammer and Anvil*, we get another round of How-To-Be-An-Emperor. Except for a peek at the southeastern Videssian Empire, we travel only in familiar places. Turtledove delivers his usual high-quality tale, but it is almost as if he is marking time until he can write the third (unnamed) book of the series.

We met the Maniakeses, able father-and-son Videssian generals, in *The Stolen Throne*. Exiled to distant Kalavria (for being too able), the pair watch an imperial usurper fritter away the empire. The younger Maniakes accepts the task of overthrowing the bloodthirsty blunderer (after his father refuses the throne).

In battles and intrigues, campaigns and betrayals, the new emperor learns his job the hard way. That makes fascinating (but familiar) reading. The plot levels out more than ends. (*The Stolen Throne* had a definitive end-point.) Turtledove obviously intends to handle the complication of cousin incest, as he handled homosexuality in the "Lost Legion" series—later. In fact, he handles all of *Hammer and Anvil* as the set-up for a future wrap-up book. For a Turtledove fan, that's fine, but anyone else is better recommended to start with *The Misplaced Legion* and work their way up to Turtledove fandom, as I did.

The Third Pandemic, by Pierre Ouellette, Pocket Books; 374 pages, hardcover, \$23.00; ISBN 0-671-52534-4

Recalling the Black Death of the Middle Ages and the Spanish Flu of 1918–1919, Ouellette foresees another pending universal plague. His omniscient handling of the pathogens, as they mutate and stalk our society, draws together more plot lines like a Tom Clancy novel. His most frightening characters are drug-resistant bacteria: *streptococcus* from an infected rat; *salmonella* from spoiled chicken; *syphilis* from a prostitute. All meet *chlamydia psittaci* in a person's body. The writing is superb as their merged DNA creates a bird-carried, airborne plague that roars out of Africa on jet engines, into an unprepared world.

The book's final impact strikes Seattle, where good cop Phil Paris has been stalking a serial poisoner. Dr. Elaine Wilkes, on the run from a mega-corporation whose computer programs predicted the plague and its possible cure, meets him there, in jail. They must communicate what they know to health officials, before the corporation's evil

minions—her former lover and a charismatic, Hitlerian crime boss—take back her stolen computer disks, and her life.

The book's weakness is the author's too-obvious steering of his human characters. Pinocchio's strings sometimes show. Somehow, the last handful of human strands in his plague world's tapestry never are infected. Ouellette works too hard for his punch line ending, in which the serial poisoner (who, improbably, brought Seattle the plague, and lived) takes out the nastiest of nasty villains.

If anything, his ending is too upbeat. Would you believe: Everyone was thrown into the pit of hungry lions, but the ones we like clamber out without a scratch and go on (wedding and bedding) into a hopeful new world. Yeah. Me neither.

Still, Ouellette will keep you up at night: reading, shivering, and turning pages. You will never look at germs the same way again. This book is worth your time.

The Waterborn, by J. Gregory Keyes. Del Rey Books/Ballantine Books, 436 pages, hardcover, \$22.00; ISBN 0-345-40393-2

Just as there are few perfect 10s, few books rate a totally positive review. This is one of them. Keyes creates two separate fantasy societies, each based on medieval sword-and-sorcery, without being a stale rehash of Tolkien or anyone else. Throughout the book, the influence of Navajo myth is evident, but in a different human context.

Perkar is a highland chieftain's son, where farmable land is limited by the sufferance of the gods. Every stream, field, stretch of forest, well, mountain, species of plant or animal, and profession has its own godling. They must be constantly acknowledged and appeased as an integral part of highlands society.

The every man's drive is for *piraku*, a concept that combines the pride of land ownership with a code of honor. The highland king, and Perkar, will travel into the wilderness to convince the Forest God, a greater godling, to cede more land for pastures. The alternative is civil war or war with the fierce Mang of the plains.

Downstream lies one of the great gods, the River. Violently risen from the earth, he dominates everything near him by consuming every godling in his path. The River is the warrior's enemy because he swallows the goddess of the stream, whom Perkar loves.

In the megalopolis of Nhol dwells Princess Hezhi, of the line of human avatars who can channel the River's power. Inquiring after her

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legacy's mysteries, she becomes apprenticed to the old librarian, Ghan. Hezhi and her faithful half-giant servant Tsem explore the sunken ruins beneath the present Nhol, seeking the fate of missing Waterborn, those not allowed to join the ruling family.

At puberty, Hezhi may face that same fate. During her first menstruation, she accidentally summons Perkar. He is ripped from his disastrous quest and drawn from the ends of the earth. The two must overcome themselves and the awakened River deity, simply to survive. Keyes brings *The Waterborn* to a satisfying conclusion, drawing together heroic battles, the half-human Alwat, priests, assassins, nomads, and magic. We are ready to see more of the giants, the Mang, and the River's Trickster raven-brother in Keyes' upcoming *The Blackgod*.



Editorial—Continued from page 1

didn't think we needed an attorney, that we should just go into the arraignment and give an honest account of what had happened. If that didn't work then she'd refer us to a good criminal lawyer.

We arrived at the courthouse and the girl's attorney immediately sought me out. He was wearing a very expensive suit and a three-hundred-dollar smile. He offered to drop the charges against my daughter if I would drop the charges against his client. I let him know what I thought of his tactics and that I would not allow anyone who assaulted my daughter to go unpunished. He told me that I was making a mistake and that my daughter could suffer for it. At that point I asked him if he had read the police report. He smiled that three hundred dollar smile again and said, "Yes, but I have ten people who will say that that's not how it happened." I told him that we were done talking. There was no doubt in my mind that he knew that Tiffany was innocent and it didn't make one bit of difference to him.

We went into the courtroom and that attorney did everything he could to have my daughter charged with assault. He put two witnesses through obviously coached testimony, and made some very

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convincing arguments that ignored the facts of the situation. He definitely earned his money that day—and if the Academy could have seen his performance, perhaps an Oscar. But when it was over the Clerk of Courts went forward with the charges against his client, but stated that there was no credible evidence against Tiffany. A month later the girl pleaded guilty to assaulting Tiffany. She was sentenced for both assaults at the same time. She received one year of probation, she may no longer attend public schools, she must receive counseling for at least a year, and she must complete twenty hours of public service.

In this case, the justice system worked. But I do not believe that that excuses this attorney. He knew that my daughter was innocent, he all but told me that, but he tried to have her convicted of assault anyway. I've had a number of people tell me that that was his job, that his first responsibility was to his client. But what about right and wrong? What about justice? What kind of person could even entertain the thought of punishing an innocent fourteen-year-old girl for attempting to seek justice? What is the price of integrity? Apparently, it's

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whatever this attorney receives for a fee.

I do understand that in the U.S. states the guilty must be defended. I understand this and I think that it is right, but I do not believe that the innocent should suffer as a result of it. Right and wrong must play a part in the justice system. That lawyer should have refused to help inflict any further pain on Tiffany. The frightening thing is that it was his idea.

I grew up in a working-class family and things were very simple: I've always known right from wrong, and I've always tried to be on the side of right. As the first member of my family to go to college, I have discovered that things are not as black and white in the white-collar world as they are in the blue-collar world. There are a number of shades of gray that can be hard for a working-class person to understand. But, even so, in the world that I came from we have a name for this particular shade of gray: we call it black.





Shariann Lewitt is a third-generation Manhattanite. She didn't leave The City until she began her graduate studies at Yale. She has eight books in print, including her most recent, *Memento Mori*. *Interface Masque* will be a Tor hardcover.

Interface Masque—Part II

by Shariann Lewitt

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CHAPTER SEVEN

Cecilie stood in front of her mirror adjusting the new mask. She had taped up the sleeves so that they fell to the midpoint of her very elegant gloves. And she had rewrapped the headpiece three times, making sure every strand of hair was tucked under the black velvet cap. Really, this costume had been a very sensible purchase. It would do her well when the Board arrived, representatives of all the Septs from all over the world. Major Septs sent people from at least every continent, and every minor Sept was invited as well.

Most of them would have some kind of mask. If nothing else, a souveneur picked up from one of the cities where identity was considered a very private matter. So few cities in real life respected private business. Unlike the rest they were all used to, where identity was very private indeed, people in too many places thought that there was something subversive in masking. Or so Cecilie had heard, though her only real experiences out of Venice were ski trips and beach excursions.

Here the Board of the Septs could walk unknown through the streets. That made security easier, which reduced cost, among other things. Cecilie remembered Signora Angelina saying that over dinner the other day, Signora Angelina was in charge of housing and security for Sept-Fortunes, and they would host several sisters from other Septs that did not have houses in Venice. Smaller Septs aligned with their own. Signora Angelina had been scarce recently, much too busy with her duties for the Board to be concerned with training more girls.

In this mask and outfit Cecilie didn't look like a girl at all. Behind the black and purple mask and wrapped velvet cap she could imagine a senior Sept sister who was respectfully called Signora Cecilie and had a two-floor corner apartment in the House with double height windows and a fireplace that had been restored to working order. She imagined that she was getting ready to go to the Board meeting herself, instead of some underground weird concert that she regretted agreeing to hear.

What use did she have for music that could hurt her? That couldn't make her organized and smart the way the Pietà always did. And yet, she had heard enough about jazz that it intrigued her.

"Dinner," her mother called from the kitchen.

Cecilie placed the mask over her face and fixed the eye holes so that she could see easily. "I'm going out, Mama," she called.

Her mother came to the door. "Now? Why didn't you tell me? And that costume looks very expensive," her mother said, tugging lightly at the shoulders and straightening a seam.

"I'm invited out to dinner and to a concert," Cecilie said, aware that her cheeks were warm and glad of the mask that hid them. "It's a celebration. I thought I told you."

Her mother shook her head and sighed. "I suppose now that you're a senior apprentice I can't tell you anything," her mother said. "But be careful, you know, don't go anywhere near that group that hangs down at the Luna. And be home by midnight, or at least call. Do you have money for a taxi?"

Cecilie obediently showed her transport card.

"Now I want you to take a taxi if you're out late. Don't let some stranger drive you. And remember, you still have to go to tomorrow."

"Thank you, Mama," Cecilie said, and kissed her mother on both cheeks through the mask. Then she fled out of the apartment and down the stairs before her mother could think of something else to check or another stricture to add.

She was early. And she had lied to her mother, just like she had lied yesterday and this morning. It was becoming too easy, but at least this was lie was harmless. She had really only been invited to coffee and whatever before the music started. It was still early and she could have pretended to eat and made conversation at home. But she was too excited to eat and it would have been very hard to sit at the table and not say anything at all. Not that her parents would understand it. Or maybe they would and that would be even worse, Cecilie thought.

Cecilie arrived at the Luna just as the door opened. The chairs were still mostly empty and carefully grouped around the tables. A bored man in a black velvet half-mask asked for her ticket. Cecilie was flustered. She had been invited, she hadn't thought about a ticket. The concerts she went to didn't require them. The choirs were paid by the Septs to sing; Cecilie had never had to think about it before.

Now she didn't know what to do. She didn't have a ticket. Gingerly she held out a kiosk card but the man waved it away. "We're sold out," he said. "You don't have a ticket you're out of luck."

Cecilie blinked behind her mask. "But I have a ticket," she said, hoping it was true. "I was invited and someone will be coming to meet me. Someone in a sun mask. He has the tickets."

The ticket taker looked unimpressed. "Don't care what kind of costume anyone wears and I don't care when they show up, either. Only you got to have a ticket to get in. Besides, it's way too early. Nobody'll be here for an hour or more anyone. Why don't you go around the corner and get a smoke or a coffee?"

The last was said kindly, but made Cecilie no happier. She turned down the street. On the corner were two young women, about her own age. They looked nothing like the apprentices and students she knew. These girls had their hair elaborately done so it fell all over their faces and shoulders. They wore no costumes or masks, even half-masks, but their make-up could possibly qualify. Painted turquoise eyes were all Cecilie could see under the streetlight.

She walked near them and they seemed to fade into the shadow, three steps from the puddle of brightness in the street. Only the glow from the tips of their cigarettes illuminated their faces and the orange embers were reflected in their eyes. Weird and scary, Cecilie thought,

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and she realized it would make a great disguise. Have everyone terrified.

She asked the girls where the nearest coffee bar was. The two of them stared at her as if she'd spoken Finnish. She asked again.

"What the hell is someone like you doing here?" one of the girls spat.

The other put a hand on her friend's shoulder. "The show at the Luma. You know they come down. So what? Old man Cecchi could use the business." She turned to Cecilia and spoke very slowly, as if to a tourist. "Turn left at the end of the block and go halfway down. There's a street light out front. They have good sandwiches. But they'll close soon."

Cecilia was glad that she didn't have to smile behind the mask. "Thank you," she said, and made off, worried that the girls might follow her and try to steal her cardcase or her mask. Or just try to scare her for fun.

She was relieved when she found the sandwich shop. For all that the food was old and stale looking, she was hungry now and she wanted to eat. They were only going to throw it away now, she thought. And then she saw the counterman take a tray with the leftover sandwiches, turn out the lights and lock the doors behind him. He took the tray down to the corner where two old drunks waited on a bench. He gave them each a sandwich and walked into the dark.

Cecilia could think of nothing else to do. She walked around the block and returned to the Luma Café, which looked no more inviting now than it had earlier. Only it was darker and the girls had left, glowing cigarette butts lying in the gutter the only testament to their passing.

Cecilia decided that she would go home. It was her own fault that she was early, but she had had enough. She wanted to be out of this hostile district, she wanted to be back in the comfortable place where she belonged. There the world made sense and there was order and reason and Cecilia Sept-Fortune had a position and respect. She never wanted to see this place again. She wanted to go back home and watch a few programs with her parents and heat up whatever was leftover from dinner. Her mother had been making chicken, she remembered.

But that would be too embarrassing. Her parents thought she was out with friends at a concert. She couldn't go home and admit that she had gone to the Luma Café and been stood up by her date.

She could go to the Sept House. The residents would still be there and there would be leftovers in the kitchen put away as neatly as her mama's.

As she turned to leave she saw him down the block. The sun mask was almost as vibrant as she remembered it, and he walked with the same arrogant grace that had marked him in the datascape.

She could go on, walk right past him. Her mask and costume hid everything, and he had never seen this outfit before. He would not recognize her and she would be gone.

Instead she walked up the blazing sun. "I didn't have a ticket so they wouldn't let me in," she said firmly. "I would have thought you would have left a record for the door."

The sun laughed. "No, they do it the old-fashioned way. Tickets and all. On paper, no less."

He pulled out two pieces of pale green paper printed with the date and the logo of the Luma Café. Cecilia fingered the ticket and cringed. The paper was cheap and stiff to the touch, nothing like the heavy creamy invitations that the Pietà sent out for their very exclusive performances.

Cecilia handed her ticket to the bored man, who deigned to smile at her this time. She was glad of the mask that shielded her expression because she wished she had passed the sun on the street and gone on back home. She could have told her mother that she was stood up and her father would have threatened to tear off the man's ears who would do that to his baby. Then mama would slice off large pieces of *torta del nonna* and they would sit together in the kitchen. Instead she was here.

Once her eyes adjusted to the gloom she realized that the place was not quite so unsavory as she had first imagined. The grey streaks on the walls were paint and there were abstract oils that had some sense of music hung unframed against the subtly mottled glaze.

"Would you like something to eat?" David asked.

Cecilia was flustered. She was hungry but she didn't want to remove her mask. She shook her head.

"Some wine, then?" he asked, and without waiting for her answer ordered.

The wine was served with narrow straws that fit through the mouth opening of the mask. Some masks didn't have any opening at all, but Cecilia was glad that this one did. While the wine wouldn't satisfy her hunger, it was at least something. She sipped it greedily though it was cheap and tasted raw.

"Why did you want me to come here?" she asked bluntly.

David waited for a moment, not sure how much he wanted to answer. "I wanted you to hear this music, that's all," he said.

Cecilia made a dismissive noise. "You want something else," she insisted. "You're too good and you're not Sept. I know that, I looked and it seems you don't exist at all. Someone with a wild talent good enough to access Sept levels should have left some trace of training or been on some Sept's recruitment list. I backtracked recruitment lists and notes for the past thirty years and I couldn't find a single individual whose follow-ups fit your pattern. I think you want more internal Sept data that you haven't been able to get hold of on your own and I don't know why you think I'm the one to use to get it."

David was taken aback. He knew that she had to be intelligent, had to have ability to see patterns and recognize what was beyond. But he had not expected that ability to be used against him. Still, she had also given him an opening that he was not about to waste.

"No," he said. "You're right, I do need help from someone who's Sept. I don't have the training. But because I don't have the training I also have more flexibility. I'm able to do things that you can't because I never learned to do anything the right way. Sometimes my way is weird, but I can get different results than you. And because of that we'd have more strengths. You with your training, you could access much more with me in ways that your Sept could never follow. And I could learn more too. The thing is, because I don't follow any of the prescribed routes and routines I see things from a different angle, and I tell you that this Board meeting is dangerous to all of us. I watched you, looked up your traces. You strike me as a very honorable person who would be willing to discover the truth."

Behind her mask, Cecilia was glad to know that he couldn't see her fear and anger and her sense of betrayal, all called up by his allegations and her own much too recent experience. He had put her off balance by mentioning a thing that was never discussed in the House, not in front of junior apprentices. "What do you mean?" she asked very softly.

David shook his head. "What happens when all the Septs get together?" he asked his voice shaded only slightly by bitterness. "You're going to take over everything. Because you can. Whatever

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we do in the world, that doesn't change. Someone always wants power, someone is always ready to push everyone else around."

Cecilie sat stark still. The words didn't make sense. "How do you know about the meeting?" she asked.

"I told you," David replied. "I can get things you can't. In ways you can't."

Cecilie stood up. In her costume she looked dark and menacing and magnificent. The tips of her gloved fingers rested lightly on the table. "This is enough," she said softly. "You want to destroy us, destroy everything. I should place a marker on you and have you banned, so that you can't even get to the Mall from a kiosk. You're a terrorist. Are you from the Red Army Faction?"

David laughed aloud. "The Red Army Faction? Those idiots who keep threatening to blow up art work and kidnap rich kids off the streets? Them? All they want is a cheap way to live without work."

Suddenly he wondered how much she really knew. It was one thing to talk about the Sept; and their power with the old man and his minions. It was one thing to see them floating through their library or ignoring the displays in the Mall. It was quite another to be seated opposite one of them drinking wine as if she were just a real person made of flesh and not at all the monster the old man would have her be.

Suddenly David wondered if he might have been wrong. If maybe the Septs were honorable and their power in their own realm would be good for everyone. Just like the Gavrillies.

The café was full now. There were people standing in the back near the bar three deep at least, and every chair was occupied. People in the far corner had begun chanting, "Luna, Luna," trying to hurry the show.

David looked around quickly. "Will you excuse me for a moment?" Then he disappeared.

CHAPTER EIGHT

David Gavrilli left Cecilie alone while the lights went dim and the band walked on stage. It was a small stage and the musicians were unmasked, which Cecilie thought was utterly daring. But then, this was jazz. This was the edge of the underworld.

The band consisted of three men and two women. They ranged from a sax player who was old enough to be her grandfather to a young girl, not more than sixteen Cecilie thought, skinny and pale, who played the bass. The drummer and the keyboard player looked more like her image of what underground musicians should be—both were young enough to believe in immortality and old enough to understand the pain in the music.

Cecilie stared at them and thought they were both attractive in very different ways. She didn't often get to see young men unmasked, at least not of her own class and kind. Already this show was vastly different from a Pieta concert, and not a single note had been played.

The band did not enter formally. They took sips of water on stage and checked the tuning of their instruments, strapped things on, clipped microphones to clothing or jewelry. Then, with no warming at all, the lights went out and the music began.

Music overwhelmed her. It was like nothing she had ever heard before and it drove into her body and made her hurt inside. The relentless drumming made her want to swing her hips. The rhythm pumped wildly in her veins. It was the power of blood and of sex twined together. Guitar and keyboard harmonies made her want to

soar. And the sax, sweet and low, longing and enticing, seduced her and made her want to cry.

Cecilie could not help but respond to this music. The power was greater than her body, the drive was worth her soul. She did not remember getting up or drifting to the middle of the room. She had never danced before, not the way she danced to jazz. It filled her and commanded her, told her how to move. She was transformed into something exotic and rare.

She held her heavy robe in her hand, satisfied by the way it twirled around her legs. Her gloved hands gestured in the colored lights, now changing from amber to blue to red and back again. She forgot her mask in the frenzy of the moment.

Then the music died and Cecilie realized that she was alone gyrating in the small space before her seat. Everyone else was settled as if it were a Pieta concert, and their applause was restrained and polite.

She felt like an idiot and immediately dropped into her chair. Her companion the sun had not returned, and she wondered if he had simply dumped her here while he went on to do something else. Maybe he had lured her here to use her ID to access Sept secrets.

Cecilie laughed at her own highly developed paranoia. For all the man in the sun mask was good, he wasn't that good, and he had been here with her only a few minutes ago. Probably he was in the washroom. Maybe there was a line, or it was hard for him to walk through the crowd. Maybe he was trying to get some more of the harsh wine from the bar, but the crowd at the bar was deep and demanding, and it would take a while. Perhaps all three.

The next piece was slower, not as demanding on her body but making more inroads into her mind. There was a fluidity to it that reminded her instinctively of the dataflow. The underlying structure that was too complex to immediately analyze, chaotic in form and yet a medium of organization more powerful than something tidy and human-scale, resonated with familiarity expressed in a different and startling manner.

Music and the net fused and she could see the whole workings of the infosca as she listened to the music that was both too raw and too improvisational to fit into any schema she had ever known. Nothing, not all the imposition of order from Bach to morning had changed the organic nature of the net. It was alive, alive the way this music was, creating itself from itself. Cecilie was enraptured. The vision was complete and she felt as if she understood the entire world.

And then the music stopped, the performers left their instruments and the audience broke into applause that was no longer restrained. Some held hand-lights and flickers in the dark, so it looked like a sky full of stars. Cecilie didn't join in. She was still too shattered by the experience. The profundity of her new knowledge threatened to overwhelm her entirely.

"What did you think?" he asked.

She blinked a few times and looked. It was the keyboardist in the band, still indecently unmasked before her. He wore a towel over his shoulders and his thin shirt was soaked with sweat.

"So, are you glad you came?" he asked.

The voice was familiar. Cecilie couldn't place it at first. She knew only that she had to struggle back from her newfound understanding to use language at all.

"It was—everything," she said, wishing she had a better word. A better way to explain. "It told me things so that I can see everything and how it works. And it doesn't work the way I thought. The way I was taught."

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She didn't hear the wonder in her own voice. David Gavrilli sat down in the chair he had occupied earlier and sipped at his wine. Then she remembered the voice. The sun. This musician had been the sun that had brought her here.

No wonder he was able to function in the various layers of the net so very well, even without a Sept background. The music explained it all, the music echoed the structures he would need. And so the music had taught him to navigate just as the constant background of Mozart in the Sept House was to teach them all to think. She hadn't realized that she had reasoned part of this aloud until he replied.

"That's the point," he said gently. "Why don't they want you to have this music? Why do the Septs want to keep us from understanding order? Why would they keep you from being able to really see the dataflow the way you need to? And you're one of their own, a golden girl with a brilliant career before you. I saw your records. I know it's true."

"Who are you?" she asked, her voice soft and dreamy.

That was when he realized that he had never given her his name. Silence was an old habit from the early days with the old man. Never tell anyone anything—ever. That was the way he had lived in his first days in Vénice before meeting his mentor, and the old man had insisted that become a way of life.

"You can call me David," he answered.

"David? A little obvious, aren't you?"

It took him a moment to understand the reference, and then he laughed. Oh, he had chosen right, she was smart and strong and not afraid to see. And she was not afraid of irony, either.

"No, it's my given name," he said. "Sorry to disappoint you."

She shrugged. "That doesn't diminish the metaphor, even if it's true. Not that it matters. Names and faces don't matter, not really. We only pretend they mean something. In the end they are all mutable. Everything is changeable. So you give away your name and you give away nothing at all. The metaphor is more important than the information."

He smiled. "Well, if that's so, why haven't you unmasked? I still haven't seen your face, Cecile 8 Sept-Fortune. And if it's so insignificant, I don't know why you kept masked while you danced. You dance very well, you know."

Cecile felt herself blush and was grateful for the face over her own.

"Look, they want to kick us out of here. Would you like to go somewhere for a coffee?" David asked.

Cecile hesitated. It was already late. Her parents would worry. But she had told them she'd be late and she was an adult with her own accounts now and she should stay out if she wanted to. She might even move out in a few months, though she thought that would horrify her mother and maybe wasn't such a good idea anyway.

"There's a place I know nearby," David said. "It's just neighborhood, but they know the crowd here and stay open late. They have wonderful pastry."

Hunger decided for her. "Do they have sandwiches?" she asked, aware only that she wanted something very soon. The wine had made her lightheaded and her stomach felt uneasy.

"If they have any left," David said. "Come on, I could use something myself. Playing is hard work."

She stood up uneasily and followed him the few blocks to the coffee bar, a different place than the one that had closed earlier. This was nicer than that place. It would have been typical in her neighborhood, or near a Sept house, small with a few tables and

chairs, most people taking their coffee in white porcelain cups standing at the counter. A few wilted sandwiches were shoved aside in the glass case that proudly displayed slices of cake and various pastries and piles of chocolates.

Cecile sat heavily in one of the chairs. David went the counter and got two espressos, a sandwich and two elegant looking stuffed tarts. He brought it over on a tray.

"Well?" he asked.

Cecile looked at the sandwich. It had not been tempting at lunch, when it had been made. Now the salami and ham were glazed by cheese and the lettuce was brown around the edges. She thought it looked delicious. She was sure she had never eaten a sandwich so good.

But to eat meant taking off her mask.

There was no place to unmask here, no screens like there were in the elegant places to keep matters of identity private. If she showed her face here she showed it to everyone, immediately.

It was undignified. It was unrefined. It was bad manners. One did not remove a mask in front of an entire room full of people. It wasn't done.

But in this place no one was masked. The people around her did not speak in an educated manner. Most of them looked like they couldn't afford a mask at all. There were night workers and people in city coveralls, girls who wore too much makeup and were too young, smoking and trying to look sophisticated. Then were their dates, young men with predatory eyes and rough manners.

These were not the kind of people that Cecile understood. She was an outsider here, clearly marked. People looked at her out of the corners of their eyes, always glancing away quickly.

David did not look like he belonged in the crowd, but something about him seemed to melt into the background. He had looked that way at the club, too, and Cecile could easily imagine him at a Sept party or as a guest at a family wedding.

He was casually handsome, as everyone from moderately middle class families upward was. His hair was dark and long, thick and wavy, like most of the boys in the room. His eyes were unusual, bright blue behind dark lashes, but they were not what made him so different from the others around them. It was how expression marched across his features. If anyone needed a mask, it was this David.

Yet the animation on his face made him more than simply interesting, or even compelling. It made him seem more alive. Cecile could not remember when she had seen anyone who had such enthusiasm, such excitement, such soulful dedication painted right out in the open for anyone to see.

And then she saw the sandwich again and felt the hunger in her and the decision was made.

At least there was a rest room where she could unmask with some semblance of seeming privacy. She took off the headress as well, and combed her fingers through her wild hair. It looked a mess, all tangled curls that she couldn't possibly force to order.

She sighed. She had no comb. And the headress without the mask was silly. She put the mask into the headpiece and returned to the dining room where David had not waited to start on his tart.

She dove into the sandwich without saying anything. She didn't even look at him until the meat was gone, every crumb of it. Only then she deigned to take a tart filled with sweet cheese and the espresso. The coffee was already cooling.

"So are you willing to talk now?" David asked.

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"Me?" Cecile asked. "You. You're the one who tried to steal my data. What did you want that banking info for anyway? And then you talk to me about some Sept meeting and you think I have to explain anything to you? You're out of your mind."

She watched the expression on his face change from smug to astonished, and she got great satisfaction from it.

"I don't have to explain anything to you," he said, anger turning his cheeks dark. "You're here because I asked you, because you wanted to hear the music. Okay, so trade. Talk. Or don't. You're not high enough in the Sept to tell me what's on the agenda for the meeting anyway. I probably know more about it than you do."

That was more than Cecile could handle. She stood and slapped him across the face.

The entire room froze. Everyone stared at them, and then the night workers and the rough boys and their hard girls broke out into applause. Cecile smiled.

And David smiled back at her. "Sorry," he said, making a dismissive gesture. "I couldn't help trying."

"You should forgive him," one of the women with close cropped hair in a city coverall said.

"Now, wait a minute," one of the girls with too much make up replied. "Maybe you should butt out, Nunzia. Not everybody in the entire city needs the benefit of your opinions on everything in the world."

Nunzia finished her coffee, left the cup on the counter, and walked over to the seated group. "Yeah, right, Concetta. Maybe your mother doesn't need to know where you are right now and why you never can quite wake up in the morning to get to a job. How many have you had recently?"

Cecile giggled and covered her mouth with a napkin. David put his finger over his lips and shook his head slightly.

"I don't need a job," Concetta replied haughtily. "Renzo just bought me this." She held up her hand. Glitter circled her wrist.

"Very pretty, Concetta. But how is it going to help with the rent? Or are you going to sell it?" Nunzia asked.

Concetta stood up and balled her hands into fists. "My rent isn't your business, you got that? Or are you going to get out of here now? My mother says she thinks you're a witch. Renzo can take care of me." But just in case, Concetta made the sign against the evil eye.

"Come on, Concetta," the counterman said, breaking between them. "Sit down. Nunzia has finished her coffee and has to go to work anyway. So why don't you just relax and have an ice cream and forget it, okay? Nunzia, you come back after your shift you get a cappuccino on the house. Concetta, you can have an ice cream now. Everyone happy?"

Nunzia gave Concetta a withering look and left the establishment. Renzo waved a hand. "Ice cream for everyone," he announced.

Cecile looked at David. "What was that?" she asked.

"Neighborhood politics," he told her. "We play down here sometimes, and I come down to the Luna for other music too. Those two are always at it. And Nunzia does have a reputation."

"As a witch?" Cecile demanded, incredulous.

David shrugged. "Some people think so. Nunzia can curse with the best of them, and if you get her in a good mood she'll read your palm."

"Has she read your palm?"

David blushed. "Well, I couldn't exactly get out of it. Everyone was doing it. Anyway, what she said could have applied to anyone, it didn't make any sense at all."

"What did she say?" Cecile asked.

"I don't remember," David replied. "Something about my family and how I was going to have a long and interesting life. Junk like that."

"So what is it you want? You want me to spy on the Board meeting for you, was that on the program?" she asked.

David started for a moment. He hadn't expected this. After all, he was supposed to be the questioner here. "Why do you care?" he sneered. "After all, you're Sept. You're one of them. I was an idiot to ask you to come out tonight. You haven't even figured out that this could have been a date."

Cecile stood up. "If I had known that was what you were thinking I would never have come." She stalked out of the cafe and let the glass door swing shut behind her.

David sighed with exasperation and let her walk. He had tried, and he was tired. Besides, she had heard the music. That would do something inside a Sept head. It had to.

What a waste of time if she wouldn't help him. He'd used the line about the date but it had just been an immediate attack. If he had a date it would have been with Sean, drinking their espressos and companionably discussing music. Sean might even have some tasty bit of gossip from the Pietà or someone who had attended a concert.

Strange how people ignored musicians, talked in front of them as if they were walls.

It was not only for Sean's possible information that David wanted to see him and recognizing that fact made David uneasy. There was something in the iconoclast singer that touched David as very few people touched him. Most people he used, but then there were the ones like Sean that brought out something more, that invaded his plans and dreams and became entwined with his desires.

People who made him feel this way frightened David, though he wasn't sure if he was frightened of them or of his reaction to them. Sean, one of these days he was going to have to make a decision about Sean. He would have to acknowledge his feelings to the singer, or he would have to run away.

He had always run before and it was his instinct to do so now. But he didn't like to think of a future where he wouldn't ever see Sean again. Or, worse, see him in a performance, angry at David and unreachable.

Still, David knew Sean and several others from the Pietà had been in the audience. Sean had sold him and David had made sure that Sean had a free ticket. Now he regretted spending the after-performance time with someone his adversary rather than his lover.

He got up slowly, tipped the counterman, and started to the door. Then he noticed the bundle on the table. Black velvet. He picked it up. Inside was Cecile's mask. The velvet was the cap that had hidden her hair. He hadn't imagined her with red hair, though it had always been considered desirable in Venice.

He took the cap and mask and slipped it into the bag that held his own mask and costume. He would have to return it. Sometime. The thought pleased him and he forgot he was face naked on the street, so he smiled for all the world to see.

66 **W**hat did you think of the concert?" Sean asked casually as they took their seats at lunch. He had not seen Lina for several days. They were in different groups rehearsing different pieces. He had been frustrated because he had been quite certain that she had been deeply struck and he wanted to know all the particulars. Besides that, he wanted to make certain that

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she saw him as a friend, someone to turn to, to gossip with, to tell secrets to.

He knew he was doing it because he could use her. She was in the group that was being sent to the meeting, to keep the harmony of the Septs while they negotiated among themselves. She was going and he was learning music to sing at several private recitals that had no political importance whatever.

Sean didn't like that. He didn't like it for himself, but more important he didn't like it for David. David needed him and he'd let David down. He'd sworn that he wouldn't do that, and it hurt more than any other thing he had or hadn't done. David was more important than any of them, Sean thought bitterly. David understood.

Although he had never said anything, Sean was certain that David thought that Sean was important and mattered and that meant more than everything else together. Sean let his mind linger on the sensual memory for just a moment and then turned his attention away. No time for that now. He had to get Lina, get to Lina. She would help him, and more importantly help David. Without her knowledge, if it had to be that way.

Of all the singers in the group going to the Sept meeting she was the most likely to help. He'd studied them carefully enough. Lina had gone to the jazz concert, had liked it. That alone made her vulnerable.

She was also isolated, not part of any of the cliques or pairs that were common among the singers. In fact, she was very much like him—a loner, a dreamer, someone who didn't have the ordinary ambitions. And so she might be better suited to the purpose than he had thought.

"The jazz concert?" Lina replied. "I'm not sure. The music was wonderful—so fluid. But I also found it very disturbing."

"You liked it though?" Sean pushed. "Even if it was disturbing."

Lina nodded. "Yes. But then, some disturbing things have their own kind of beauty. A kind of glory in ugliness, perhaps, though I'm not sure if I could think of a musical example right off."

Sean tried not to smile. "Would you like to come meet some of the players?" he asked, carefully casual.

Lina shrugged. "It's the music, not the players, that counts. Besides, my schedule is insane for the next few weeks. You know, we have to do the meeting music on top of regular repertoire? I won't even have time to have my nails done."

Sean glanced down. Her nails, painted sky blue with gold patterns, were perfect. He shrugged. "Have it your way. I thought you might like to meet some of the people I know. They're having a party next week and you'd be welcome. Besides, I think you'd like them. I think you'd like their ideas."

"Ideas on what?" Lina asked.

"All kinds of things," Sean said, and his eyes lit up. "Not just music. Everything. The way the world works. Why we wear masks. Why some people have all the power and why we have none and what we can do about it. What we can do about the Septs."

Lina looked confused. "What do you mean? We have a lot of power. Nothing would work right without us. And what's wrong with the Septs? They do their job, we do ours, the world works. I don't see a problem."

Suddenly Sean was angry. "Oh, right, we do our job and they do theirs and it's all very nice. And everyone is happy. Well, everyone is not happy. Everyone is being deluded because the Septs are taking over more and more of our lives and we don't even notice. We don't bother. When you entered the Pietà there weren't Sept liaisons, right? And there weren't Sept set lists of what was appropriate to play and

what wasn't. Remember? Remember how we used to sing things from that weird modern thing? And the operas. We only do approved operas now. First we stopped doing the one-acts because they weren't important enough. And then we stopped doing some of Wagner because we couldn't afford to mount the productions. And two years later, remember, how Sept San Marco stepped in and underwrote a whole Mozart season?"

Lina was listening very carefully. His memory for dates and the progression of events impressed her. The past was a cloud of isolated events to Lina, and the only thing that linked them together was the music. Listening to Sean's short summary of events she recalled clearly, the general pattern organized and became whole to her. Things that before had no connection or had not mattered suddenly fell into perspective and she saw into a conspiracy as thick as the plot of an opera. That made it all the more suspect, as operas were invariably absurd. By definition, anything that was like an opera must be completely fantastic.

Lina wanted to toss off her new perception. She wanted the past to become safely distant and indistinct again, and she wanted Sean to laugh and tell her it was a stupid joke. It wasn't a joke though, and she couldn't ignore her own direct experience.

She said nothing for a while, thinking. Then she spoke cautiously. "Yes. When I think about it, yes, the repertoire is more restricted than it was when I entered. And I remember going to places like the Luna when we were very young. There were maybe four or five music clubs in the city and they played everything. I remember this one concert with this old man playing a saxophone."

Sean nodded vigorously. "That's it. Exactly. There's less music and it's all approved. Traditional. And think about shopping, about going to the Mall. You can't go anywhere outside the Mall level without proper credentials. You can't go look up some weird old concert that the Septs have decided isn't on the play list."

Lina studied him thoughtfully. "Have you tried this?" she asked. "Have you tried to go out of the Mall and call up what was recorded? Or is it only that we don't, that we've been so involved in perfecting one phrase at a time that we don't have the energy to listen to music that doesn't really speak to our current needs? Is it that? Because I wonder if it's really that the world is less free than that we are just letting things slide."

"Not me, I haven't tried," Sean said. "But I can introduce you to someone who has. Someone who can go anywhere. You can ask him."

Lina nodded and gathered up her music. "I'll talk to you tomorrow," she said, and left. She needed to think for a while before embarking on one of Sean's schemes. He always had ideas, plans, grandiose dreams and paranoid theories. Lina wasn't sure if this was just one more of Sean's leftover illusions, or if this time he'd been led into something more substantial.

Sean was about half on most of the time, Lina thought. He seemed to always need to rebel, to be different, to assert himself in the worst possible way at the most hideous times. But she was also aware that life at the Pietà was sometimes too comfortable. It was easy to forget that there was an outside world that could be cold and hard. That out there people could go hungry and people had to scrape to find work and sometimes people couldn't afford to live. In the Pietà she had escaped everything, and she knew it.

In that, at least, she was more aware than most of the singers. She did know there was an outside and she remembered it very well. Even the younger students who were local, who didn't board at the school, were wrapped in the case that was the Pietà. Their parents were given

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a stipend, their lives were completely regulated. And they were the minority anyway. Like most of the Pietà singers, she had come from far away to audition and then became a boarding student.

Music was all of life here. Nothing else mattered. It was a very beautiful way to live, a perfect dedication to the ideal of music alone. That had appealed to her for a long time.

Only in the past few years Lina had thought that maybe living for music alone wasn't enough. She had been uncomfortable with those thoughts and hid them away. Music should be enough. Music should be everything.

It wasn't. Cracks had appeared in Lina's consciousness and she had become aware of the streets and canals they traveled. She looked into the high windows and wondered what kinds of lives were lived behind the glass and curtains that fluttered over the water. She looked at the people on the Lido and tried to imagine their concerns, to create whole histories for them.

At first she said it was for her opera work. That she wanted to do more operatic roles and she had to learn to act as well as sing. Only she hadn't gotten the roles and she hadn't gotten out of the habit of studying the life around her, either. Instead her new perceptions had only made her melancholy.

The others thought she had become quieter because she was miserable, having missed out on the La Scala season when Maestro had hinted that she would make her debut. She was not miserable. Strangely, she didn't really care all that much. Lina had never been competitive that way, though it was a way of life at the Pietà. Somehow she had never quite worried enough about her roles. She had spent far too much time trying to be a pure acolyte of her art and she no longer thought in terms of her advancement alone.

Lina turned inward and began to live all the lives she invented in her head. She had had no lovers since the disastrous casting, as if her failure were contagious. She was singular, isolated, much like Sean the loudmouth rebel who couldn't keep himself away from trouble. Not even for the chance to serve music the better through one of the most beautiful voices in the choir could he manage to control himself.

Lina had a great deal to think about. No matter how many conditions she put on it, there was always the fact that going out was to maybe touch something again. Staying in the Pietà was safe and nothing could break through the layers of defense here. Nothing except music alone could make Lina feel anything at all.

She thought that Sean was just the opposite of her. Sean's problem was that he did feel, that he didn't fall under the spell of comfort and ease, of emotional distance from anything that was alive.

Alive. And then Lina looked down at her hands, her white fingers that lay limp on the new folio, ghostly and anemic and the next thing to dead on the vibrant blue leather. They looked as if they had been carved in marble, cold and icy and not at all alive. She felt like she had been carved of marble, the pristine angel on a mortuary monument who never saw beyond the cemetery walls.

Suddenly it didn't matter what Sean wanted any more. It didn't even matter if he was wrong, if there was no conspiracy, if she was half crazy to even think of going to some weird jazz party. Anguish engulfed her as she realized that she didn't feel anything anymore, that she hadn't felt anything since the summer of La Scala.

It wasn't being passed over for the opera that had made her feel dead. It was that the music she had rehearsed and sung, the roles she had acted, had made her feel so much more alive than anything else she had attempted. Lina moved through her life like a sleepwalker, but

when she lived Mimi's life her whole being resonated with the passions and pain Mimi experienced.

Lina knew that was the real reason she had not been selected. She was only a ghost unless she took on the more substantial flesh of a fictional character. She would not be the singer she wanted to be, could be, until she became real, until she felt things deeper than the stupor of the Pietà. Until she lived.

So the decision was made. Not because Lina thought it was the right thing, but because she knew it was the only way she could save herself from fading away until there was nothing left at all. She had to act somehow, had to touch that world she had rejected when she had been accepted as a student.

She had to touch the world that had hurt her and scarred her and that she had sworn would never hurt her again. She had to go back out into it or she would end up a ghost in St. Clare's Hospital for the insane. She had already been dead too long, living in a tomb of cold music.

That was the center of her fear. Maestro had tried to understand what was happening to her singing. Her voice was still glorious, but there was nothing behind it, he had told her. She had to express something more than precision with the notes, he said, before she could play the passions of opera.

Her mind was made up in the next hour while the reflections of the canal shimmered across the ceiling. She did not tell Sean, though, not right away. For a little while she held hope and fear together while she watched the light ripple across the painted Baroque sky and she was afraid that the painted sky told the truth, a patch of clear serene blue surrounded by a tumult of clouds. Some of the clouds were amber and rose like sunset. Others were grey like an oncoming storm or like the water in the canal in the early morning.

That grey was like her soul, like her music. Like her life. All around the promise of a moment of clear and a moment of glory.

CHAPTER NINE

The Mall was in the white marble phase that was Cecilia's favorite. She loved the soaring pale columns, the hard shiny floor, the glossy green leaves of potted plants in contrast to all the pristine white. Julietta and Valentina were waving her over to the newest shoe store in the same way they had dragged her to the sweater shop and the place that sold bad imitations of designer clothes.

The girls went unmasked here today, trying to look like ordinary shoppers. Her mother had not been pleased. "You can't shop in the Mall," her mother had said for the fiftieth time over breakfast. "You can't try something on virtually. What if it isn't flattering? Everything looks flattering when it can adjust to any illusion. To your illusion."

"So we'll just get shoes and accessories," Cecilia had replied, stirring her coffee more than sipping it.

"Shoes. How can you buy shoes that you don't try on your real feet? How do you know they're comfortable, that you can walk in them?"

Cecilia shrugged.

"I really think you girls should go to the real shops," her mother continued on. "You need to get out and walk in the fresh air and the sunshine. You all spend too much time indoors, with computers, not living life. One day you'll be old suddenly and you'll wonder where all that life went while you were underground."

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"It's not underground," Cecilie said. "We're never underground. And there's a nice courtyard in the Sept House, you've been there. We eat dinner outside in the summer."

Cecilie didn't want to argue any more. Mostly because she was afraid that her mother was right. Her mother's clothes always looked perfectly elegant, more flattering and pulled together than most of the people on the street and much more so than any Sept sister Cecilie had ever seen. Cecilie suspected that it came from shopping in the physical world. Cecilie also thought that she might follow her mother's example, but quietly.

The whole point of getting together was for the newly promoted members of Sept-Fortune to get away from supervision for a while anyway, and to be able to present their new status with their sisters before the Board meeting. Shopping was something everyone, even Signora Tima, understood.

Cecilie had to get away from everyone, from the Sept and her parents and especially from her thoughts of the jazz night. She had to forget David and what he had told her. Looking for the Septs taking power meant that she saw signs of it everywhere, and that made her afraid.

He had known too much and that made her suspicious, but he was right that there was something wrong. She had known there were things wrong ever since Signora Tima had told her what was required for her promotion. Nothing had felt right since.

She had not slept well. Late at night when everyone in the whole city, in all the world, was asleep, Cecilie had wandered barefoot through her parents' apartment. She opened the fridge and stared blankly at fruit salad and a scrap of ham and half a cheese, none of which appealed. The light spilled into the kitchen making shadows more pronounced, which Cecilie found disturbing. She closed the fridge and opened the shutters over the water. Resting on her elbows, she looked down and listened to the lapping of the canal against the stone in the dark.

In the dark it was worse. In the dead of the night she knew that she had done something terrible and she cried and wished she were a better believer so that confession could clear her soul. The gentle sound of the water was ominous, telling her again and again that there was no escape.

Two entire days had passed since the jazz concert and she had taken no paid work and bailed no hours. Instead, she daydreamed, and when she got sick of that she had gone back through the date she had given over to Signora Tima. On the surface of it, there was nothing terrible. Besides the fact that they were not entitled to it, there was nothing that accused anyone of any crime, nothing that screamed theft or blackmail.

So she looked further. She had been trained to search, to follow threads, to touch leads and make them yield to more leads. Now it surprised her that the skills she had learned to track an intruder or follow corporate ratings could be used against a client's interest so easily. Like the rest of her training, the data compilation and search class that she had taken for three years was two-faced, the threat hidden in the banal. No wonder Signora Sophia insisted they learn for themselves and not contract out to Sept: Bianchi that specialized in data search and retrieval.

After three years of study, putting together the files she needed was far too easy. She looked at the names in the documents, names that meant nothing to her at all. Lawrence Phillips. Elizabeth Jamison. Arthur McNeil. Vincenzo Gavrilis. Dunya Marikoff.

Just names, and money, and the places money traveled. She had tried it against a template and everything seemed in order. So she started with the names again, looked up biographies, looked to where they linked through the homepages of a hundred corporations and ten million business threads.

One by one she noticed that there were things in common, things that she could not have known without the intense training in search methodology. Two of the principals were dead, their estates in probate and not quite settled. Estates as large as these would be hard to settle, that was no surprise. The surprise was that in both cases, one of the trustees was a Sept sister.

Nothing looked suspicious immediately. Both Sept sisters were blood relations to the deceased. Still, Cecilie desperately wanted to find no connection at all to any of the Septs or the Board or anything that could confirm David's wild theory.

She called Zizi. The bird appeared through the window trailing long turquoise plumage. She thought about changing the color again, and then realized that she didn't have the time. There was not even the time to think about such things. She gave Zizi the names with instructions to pull any mentions of them or their families, paying special attention to any Sept connections.

The bird squawked once and flew around her head once, then headed for the door. Now there was nothing to do but wait and think, so Cecilie decided to shop instead. Anything was better than sitting around wondering when she would get the piece she needed to make sense of the whole thing.

So she met Julietta and Valentina and the three of them went through the white marble Mall, but Cecilie couldn't concentrate on shopping. When she found sweaters on sale she couldn't decide between the deep green and the pale gold and finally just let it drop. Julietta bought two skirts, simple wool but very nicely cut, if the illusion of the Mall could be trusted.

"Cecilie, you haven't bought anything," Valentina pointed out. "And you really need to. You can't wear uniforms once the meetings start and you don't really have anything else."

Valentina was right. She and Julietta had each made sensible purchases, things that they could use daily as full Sept sisters. They didn't have to carry bags. Everything would be sent immediately and most should be waiting when they left their dreamboxes.

Nothing in the Mall appealed to Cecilie. Her mind kept wandering back to the list of names, and she kept wondering if Zizi had found anything. Maybe the necessary detail was waiting in her queue now. She almost itched to get back to the Library, to see what was hanging from Zizi's beak as the bird paced up and down in front of her place at the table.

"Come over here, Cecilie," Valentina called. "I think you might like this dress."

Cecilie sighed and turned back to the store where Valentina was pawing through the racks. She was just not in the mood to shop, that was all, she realized. But Valentina wouldn't be put off. "And look at this jacket!" Valentina held it up and motioned Cecilie in.

The jacket really would look good on her, Cecilie thought. And it probably costs too much, or the fabric wasn't good. You could never tell about the true quality of fabric in the Mall. Her mother would think it was too trendy and tell her not to buy things that would look dated in a year.

"Classic, that's what you need," her mother always told her when they went shopping. "A few pieces of the best quality are much better than a million choices of trash that have to be replaced in six months."

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While Cecile knew that her mother was right, she still thought that the jacket would look good on her. If it wasn't too expensive she would try it on. The color was even nice, a rich olive that none of the others could wear. Maybe her luck was turning.

She went in. Just as she reached to take the jacket from Valentina's hand everything in the shop seemed to ripple just slightly, as if the whole program had been re-focused in an adjustment. Only there was more than that. Cecile felt vaguely ill. And the jacket, which had been a deep, vibrant shade was now just a bit drab.

In fact, everything was just slightly askew. Cecile felt as if she were peering through a distorted lens. She moved to one of the mirrors in the store and looked at her reflection. The image that stared back at her was altered slightly, changed, not the careful projection she had spent months creating.

Not that the duplicate was so terribly different. Her hair was still red and it tangled down her back, her eyes were still wide set and her dress was still *ecru* gauze. But the face that was almost but not quite her face had a softer expression and freckles and her fingernails were freshly polished a pale peach her mother would vigorously approve.

She looked down at her hands. The polish was there, not even chipped. Cecile could not remember when she had ever worn nail polish that hadn't chipped or smeared by the time it had dried. It was so unlike her she had never thought to write it into her appearance program, though there was no reason why not. Why couldn't she have perfect nails all the time here, even if not in the meat world?

In fact, she should have written this into the program. It would take hardly any work and she could have something that she had despaired of in real life.

She was wondering it all so deeply that suddenly it struck her to wonder why it had happened in the first place. She hadn't written it into the program and it shouldn't be interpreted that way in the Mall. She stopped staring at her hands and started to look around. The store was not different that she could tell. The jacket was back to the original color. Valentina and Julietta looked like themselves perfectly—better made up than usual, Cecile thought.

Then she looked at their hands. They also wore perfect and understated pale nail polish that was nothing like the dark reds and purples they had discovered when they were fourteen. Valentina and Julietta still wore those shades that Cecile's mother would not tolerate in her home.

The others didn't seem to notice the change. Cecile wondered if she were losing her mind, seeing things that were completely irrelevant and letting them distract her. It was all just so stupid. She should forget it.

She purchased the jacket.

"Is that all you're getting today?" Julietta asked. "It's almost dinnertime, and if I'm late my mother is going to kill me. Besides, I really want to try this stuff on in real life, you know?"

Cecile nodded, distracted. Her friends took their leave, but Cecile dawdled behind, looking at all the details about the Mall she had never quite noticed before. The marble had given way to the Victorian rendition but the underlying structure was still the same. The pillars and fountains remained in position, only their style altered at each cycle shift.

She wandered to the lower court where there were seating areas for those who felt tired after parting with their money. In the Victorian version, the chairs were all upholstered wingbacks and there were potted palms and hothouse flowers and low wooden tables full of

silver and crystal illusions. She preferred the marble look; the Victorian was too fussy for her taste.

Still she sat down and hoped to quiet the churning inside her. Something had passed through, something had touched her and made her queasy. And changed her nails. No one else noticed, or at least no one else indicated that the whole fabric of the interface had come unglued.

She thought of this effect as "the anomaly." She had encountered it three times before, and it always left her feeling vaguely ill. Perhaps the rippling movement of color at the moment of appearance made her motion sick, as she had been every summer sailing on the lake. Only there was something beyond the motion-sick feeling, another feeling that was more like after having eaten something bad and wanting to throw up and not being able to. That felt more like it to her.

Resolving the description did not make her feel any better, though. She didn't understand it. There was no way something could move through her environment and change her personal appearance projection permanently. Though she didn't know if it counted as permanent if she got out and came back.

If she got out and took out all her code and saw if there had been an inclusion. A virus, maybe? But a virus that painted her nails and did nothing else was so silly she had to laugh. How her mother would approve of such a virus, would try to get it replicated in the real world.

"A virus for perfect nails, you could make a fortune," her mother would say. Though her mother always had perfectly groomed nails. The manicurist only had to shape a little and change the color. Cecile didn't know how she managed, or if it was just something about being a real grown-up. Signora Tima had perfect nails, too. Though Signora Angelina bit hers, which profoundly reassured Cecile.

She wondered how many other little things she had never noticed had been mildly changed. Made more perfect perhaps—or less. She had no basis for comparison.

"What happened when it hit you?"

The voice startled her and her head jerked up from contemplation. The blaring sun stood in front of her. David, she thought. He seemed much more manageable as David.

She was more surprised that she accepted his presence so easily. Perhaps the anomaly had put her beyond shock for a while. It was certainly much more startling that the presence of a would-be *ninja* in the Mall.

"Why should it affect such stupid things?" she wondered aloud.

"Stupid?" David asked suddenly. "Like what?"

She held out her hands. "My nails," she said. "They're never this nice, not even here. And they didn't change back the way the colors did."

The sun stared down at her hands. "It never changed anything before," he said.

Cecile shrugged. "That you noticed, you mean. We really don't know. Maybe it's been changing things all along, only they aren't things that mean anything to us. So we don't see it is all. Maybe the whole world is different than it was and we just haven't paid attention."

"So now are you convinced?" he asked.

She blinked. "Convinced about what? That there's something here I don't understand? You wouldn't believe how much there is here I don't understand. Stuff that no one understands. We built it but we can't control it."

"That we have to find out who is creating this anomaly, and do something about it," David said, hissing through his anger.

Absolute Magnitude

Cecilie began to giggle. "Do what? Arrest it? I mean, we don't have any authority. No one has the authority to throw something or someone out of here anyway. If they did, you'd have been the first to go. So what do you think we should do? Play kid detectives and report to our elders? And what are they going to do? What's the point?"

"Oh," David said slowly. "I made a mistake. I thought you might care. That you might have figured out that it had to be one of the Septs trying to take over, maybe one of several attempts that haven't quite worked. But I was wrong. You're just like all the others."

He turned as if to leave. Cecilie grabbed him by the arm and he turned back. "I do so care," she protested. "But you don't make any sense and all you want to do is blame things on the Septs anyway, just to get back for your own bitterness. I mean, think of how you've treated me. First you try to steal data off me, then you take me to a concert and now you want to track down this anomaly. And everything is the Sept's fault which makes it my fault, and somehow you expect me to make it all up to you. You're completely paranoid."

David looked at her, stunned. "I didn't realize that you thought of me like that."

Cecilie threw up her hands. "I don't believe you! I mean, you go looking for an apprentice to use to confirm all your paranoid illusions, and then when they figure out what you're up to you're surprised. You need a good therapist and I'm not qualified. I wish you would leave me alone."

"Really?" David asked.

"Really," Cecilie repeated. "Really, really, really."

The sun disappeared back through the wingback chairs, through an exit to the side of the roaring fireplace. Cecilie waited until she was sure he was good and gone, and then left herself. Only she went out one of the upper doors onto the street that led to the Library.

When she got to her table, Zizi was perched on the back of her usual chair, preening. It seemed very pleased with itself.

"What did you get?" she demanded.

"Why the boy wants the data," Zizi replied, hopping from one foot to the other in excitement. "I found out, I found out."

"What?" Cecilie asked, wanting to throttle her familiar. Even though she had created its personality. Maybe she should alter the program to make it just a bit more compliant.

"In the folder, on the table," Zizi said.

There was a neatly placed folder in front of her chair. She opened it and turned the pages quickly. The picture leaped out at her first. She had seen this face before, very recently. She recognized David in the folder as the sun, the musician, the person who'd been making her furious without fail ever since her promotion test. What did he have to do with... She picked it up and read only his last name. All was made clear.

Gavrilli. No wonder he wanted to know. David Gavrilli was listed as one of the principals of the bank, the heir of Vincenzo Gavrilli. He was too young to actually function in any capacity in the bank, Cecilie thought. She tried to remember her classes in ownership and inheritance and legal matters, which protected her clients and kept her in Sept-range fees. The rich often purchased things and put them in the names of children. It split up the fortune.

Indeed, she had even known of cases where the children were expected to behave like owners and make decisions. The very rich had their own apprenticeship system; Cecilie could appreciate that.

But she was stunned that the musician in the sun costume turned out to be—one of them. He wasn't what she thought they would be

like. He wasn't a snob, wasn't aloof, even if he was arrogant and cocksure.

He was still one of the principals of a bank where administrative trusts were slipping into the hands of the Sept. No wonder he'd been watching her, watching the Sept, anxious to make inroads. Cecilie whistled between her teeth. This was one where she needed to be very careful. He wanted to use her, and she trusted him less and less. He was completely crazy, Cecilie decided, but that didn't mean he was less intelligent or less dangerous.

Then she came to the full report on the principals, and she was shocked again. Not only was he a principal, but David Gavrilli had disappeared, presumably kidnapped according to the police report, three years ago. Though the police and the family assumed he had been killed, there were years to go before he was declared legally dead and his fortune went back to the family coffers to be distributed again.

He had disappeared three years ago. He had been here in Venice for a while. Maybe he had been here the whole time, though how he had managed to remain anonymous for so long was beyond Cecilie's imagination. The entire system, both real life and in the net, worked on series of identity proofs. The kiosks verified financial status before the meter turned, the banks filed retinal scans and voice recognition patterns. Blueprint documents were needed to get the universal account transfer cards that permitted access to kiosks, accounts, shops and apartments. Without that card he couldn't have held a job or checked into a hotel or rented an apartment.

There was more going on than she understood, and Cecilie realized that she was lost. The pieces were adding up to something much bigger than she had expected. Bigger, and more subtle.

She smiled. At least now she had more on him than he had on her. What she had was useful and could be sold. His family had never rescinded the offer of a reward if he was located, dead or alive. That was included in the file, too.

She wondered idly how much he'd be willing to pay or do to keep his whereabouts secret. Cecilie had no doubt that his disappearance was his own doing. Or perhaps the original situation was not, but he was obviously free to come and go and he had not returned. She wondered if he really was crazy and his family was going to commit him very quietly to some elegant spa with the finest psychiatrists and therapeutic genetic restructuring that money could buy. Running away from that fate was something that made sense, which was the only comprehensible thing she could conclude about David Gavrilli.

Cecilie thought about that very generous reward. She was fairly certain that David alone couldn't match it. She wondered how nervous it would make him, to let him know that she had the power to return him to the asylum he had fled.

Until now, he had had the power. Cecilie felt the shift as the whole puzzle changed shape yet again. Now, even though he didn't know it, she had taken over.

Information was both wealth and power. The Septs built their Houses on this. They had already taken over the world, only the world didn't know it yet. Soon, very soon, the world would know. Once the Septs met and divided their territories, then everyone would know where the real power in the world was.

Families like the Gavrilli were obsolete, living out of a privilege hundreds of years old. They had lived past the time of their natural death and their power was only a memory, but they hadn't recognized that yet.

Cecilie knew this, but it felt so different, so strong, so good, to hold someone like David Gavrilli in her grasp. Information was power, and

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even the most junior senior apprentice in Sept-Fortune had more data at her command than the scion of the wealthiest and most influential family in the world. And the data had delivered him.

No wonder David Gavilli hated the Septs so deeply. No wonder he thought there was a plot to wrest control from the old bastions of command. Perhaps he was not so much crazy as threatened and afraid, Cecilia thought. Perhaps he was jealous and bitter as well, knowing that he had had the talent to join the new elite but tied by allegiance to the old.

Oh, yes, Cecilia had him precisely. Now she only had to decide how to best use her new-found cognizance, her new experience of dominion.

Cecilia Sept-Fortune didn't know she was crying.

CHAPTER TEN

Once upon a time, the courtesans of Venice would sit out on their balconies with their long hair soaked in lemon juice and then spread over broad straw brims to lighten it. Once upon a time they would rise at noon or later and spend the night in gambling parties. There were stories about a convent rumored to be a brothel on one of the islands in the lagoon, where the young nuns were offered as whores and their babies killed.

Venice had been many things, David Gavilli knew, but none of them had been respectable. Although the day was overcast, grey clouds over grey water, the whole city enveloped in a charcoal wash, he had gone to Murano. Among the tourists trooping through the glassworks and the shops he could lose himself. They went unmasked, groups from Japan and Germany with their ever-present cameras, guides with red furled umbrellas, schoolchildren trooping along, glad to be doing anything but their assigned studies.

On a grey day he loved to watch the furnaces, the hot open fires for melting the glass and the burly men in undershirts that swung the long lead pipes like reeds. He watched now with a group speaking some language he couldn't identify. He didn't care about the guide's description, he could fill in the words himself. Instead he found himself mesmerized by the fire, by the rhythmic swaying of the pipes, by the thick arms of the glassblowers. Above all he was entranced by the red molten glow on the end of the pipes that arced in the darkness as it took shape. This was magic he could watch forever, animals and colored flowers with leaves all veined taking shape at the end of the leaden pipe in the dark.

It looked like Hell, like all the classical descriptions, like all the paintings in the Roman churches. Dante had written about the dark and the fires. But in Hell they did not create things of such beauty, they did not laugh and blow and take such care with the exact hues of the colors.

The old colors, David knew, were poisons. He had taken the tour when he had first arrived and still was fascinated. Arsenic made green, for one, the rich emerald that had been produced on Murano for centuries before cheaper substitutes were found and glassblowing was no longer a cloistered priesthood. Poisons, and prisoners. The masters of Murano were accorded the respect of aristocracy and had more wealth than many, but were not permitted to leave Venice. Ever. Least they take their secrets with them. They stayed on Murano and married into each other's families so many times that the family trees rivaled any in Europe for complexity. Their glasswork was no longer their monopoly and their art was old, but they still reigned among the great artists in the world.

David had seen some of the newer glass from Prague, where artists worked in modern designs. Once he had thought to go there, but had never managed it. Always there was so much to do, so much work to accomplish before he could rest.

Today, watching the glass become the traditional dolphin stems for wine goblets, David wondered why he hadn't gone back home. He had the power, surely, but the desire was gone. The thought was as foreign as Prague. Home was the palazzo off the Grand Canal were the silk moire was rotting off the walls and the masked still gathered for music and games the way they had before the time of Napoleon.

Here in Murano he was an alien, looking into a world that he could never really understand. The glass masters were true priests of their art. That made him think of Sean and the Pieta, dedicated to the bone. There was nothing else for the glass blowers, or for the singers of the great choirs. Compared to them he was a dilettante, with nothing to lose. Greatness in art, be it music or the net, was not suitable for the heir to unimaginable wealth. Mastery was reserved for those who had been given nothing beyond a particular aptitude and the single-mindedness to follow wherever it led.

David felt more estranged than ever, a ghost walking through the world. He wished he had his white corpse mask and the costume of the shroud with the dead roses.

He rode home in a speedboat as the sun set over the water. It was silent as a dream and more ephemeral. He got off at the stone platform that was hundreds of years old, the stairs down to the water eroded by millions of feet. He thought he saw a flicker of movement under the archway that decorated the portico of the house. Only a trick of the light, he thought. The light in Venice was famous like her whores, their beauty the result of desire and mirage.

Then the movement came again and he was sure he had seen something. It touched the world around him like the anomaly let free of the net. He walked over and ducked under the archway to investigate.

At first he thought it was garbage that had been dumped. The shape was vaguely human and he considered that it could be one of the needle kids had curled up for the night. It had happened before. He grabbed at what he saw was a wrist and began to pull, hoping that the indigent would get the message and leave without alteration.

Then he realized that the skin was cold—colder than the water, as cold as the grave. He didn't hear himself shriek and pull away, run out from under the stonework and puke into the canal.

He got his breathing under control. His stomach threatened to heave again but there was nothing left in it. David shivered and shook as he squatted hugging himself on the landing. He had never seen anyone dead before, had never touched a body before.

He should call the police or an ambulance, he thought. But maybe he should see if he knew who it was first. It was the old man's palazzo and Artos would want to know.

David didn't want to know. He only wanted to get out of there, get into the warm light of familiar rooms and call someone whose job was to make unpleasantness go away. That was what he did in the end. He didn't want to go back to the corpse by the water, didn't want to see that it had once been human. Instead he did the easy thing and called the police. Someone dead, he said, under the archway. He didn't know any more and didn't want to.

So when the police arrived he was surprised when he was summoned back outside under the floodlights. "Have you ever seen this person before?" a weary police sergeant asked him.

Absolute Magnitude

David glanced down and his eyes went wide. He had truly not expected to know who the body belonged to. He certainly was not prepared for this.

Lying mostly covered in plastic was Artos, a small burn hole between his eyes.

Artos had been murdered. Who would kill the old man? David wondered feebly. He trembled, confused both by the idea that Artos was gone and by the very fact of death itself. Artos looked like Artos—and didn't. The features were the same but his skin didn't look real and there was nothing familiar about him. There was no presence there at all.

"Are you a relative?" one of the police asked.

David shook his head, still dazed. "I played music with him," he answered.

"You'll have to come down and give us a statement on how you found him," the officer said.

David shrugged. He didn't understand any of it. "Was it the Red Army Faction?" he asked vaguely.

"We don't know yet," the detective answered gently. "We don't know anything yet. Why don't you tell us again exactly how you found him and what you saw?"

So David went through it again, only this time he had come back to his senses just enough to be afraid. Maybe the anomaly had killed the old man. He didn't understand the thing could get free of the net. Perhaps it had some grudge against Artos, or maybe against jazz.

Most likely the Septs killed him. The old man knew about the meeting. But then, so did David, and David was far more suspicious. He had been the one talking against them, he had been the one who had told far too much to Cecilia.

Cecilia. Damn her. She probably went and told her superiors. She thought that her Sept was unassailable, perfect, and that her Signoras were the next thing to God and the Madonna.

Only if it had been Cecilia, why had they killed the old man? Why hadn't they killed *him*?

David pondered this question as he gave yet another statement to yet another detective, this one younger than the rest. A detective in training, David thought grimly. At least he still could think.

He had given them the library of the old man's palazzo. It had chairs and two desks and another writing table, so David thought it was more suitable for detectives than the ballroom or the parlor. The whole house was sealed and David was outside wondering where to go. He hadn't told them that he had lived here on the third floor for years and that his most of his belongings were there.

Now his things would be searched, and he was grateful that the old man had made him get rid of his Gavirilli IDs and anything that could link him either to his family or to Rome. Artos had burned his picture disk and his family records the third month he had been in residence. They had made a ceremony out of it, tossing it into the fire and then the ashes into the canal. David had missed those mementos of home. Now he was glad that Artos had insisted, had divested him of any past. Now there was nothing at all to link him to the things in his room in the house, and nothing to link any of them to the Gavirillis.

Only he had to find a place to go. He had his kiosk key around his wrist like almost everyone else in the city. A few of the girls had taken to wearing them on ankle bracelets or on fine chains around their waists, but on Artos' advice David had accepted the common fashion of wearing the brightly colored laminated card on a heavy chain next to his watch.

He could get money from a kiosk and go back to the pensione where they weren't particular about his identification. Then he thought about the Septs and decided he didn't want to risk it. Anything that went through a kiosk could be traced. It might be time consuming and it might be difficult, but that was what brought large contracts into the Septs.

Instead, David stepped into a cheap mask shop and bought a plain white plastic mask that looked worn already. He paid in cash. He had a little more cash on him, enough to take a taxi certainly. Instead he walked the streets and bridges in the dark, the street lights reflecting off the water.

From the distance he could hear the music. A rehearsal, probably, and most likely a student group. But the singers were still Pietà and their voices were pure and liquid.

David waited until the music ended and then he went not to the bronze oversized Pietà door itself, but to the resiliency down the street. Unlike the Pietà's main building, this building had no reliefs cast on the door, no painted balcony with pierced work around the second floor and no impressive bank of stairs to the street.

Still, the place had charm, a very sweet courtyard inside and truly exceptional tiles in the halls. He rang the bell for an apartment on a middle floor, an apartment made from a carved up house that had once belonged to a rich merchant. The Pietà owned several such buildings in the neighborhood that were leased to members of the choir and the staff. They were free to live where they liked, but the official residences were convenient, inviting, and subsidized. David waited with his hands in his pockets, hoping. It was always possible no one was home. Rehearsals often ran late and performances happened at any hour.

He rang again and this time an irate voice came through the speaker. "No sales," the voice snarled.

David smiled. "Sean? It's David. Can I come up?"

He was answered with a bell to signal that the security door was unlatched. David climbed three flights of winding stairs. The lift was almost as old as the stairs and no one used it.

Sean was waiting outside his door when David made it to the landing. "Come in, I just got in from rehearsal, it's wonderful to see you," Sean said all in a rush. "Can I get you anything? Come in, take off your coat, your mask."

David waited until he was inside the door to remove the flimsy mask. "Artos has been murdered," David told Sean. "Can I stay with you for a few days, until things calm down?"

Sean's eyes grew large. "Can you stay? David, I would like you to stay with your whole life, not just a few days. You know you are always welcome here. But come in, you haven't had supper yet, have you? I was making chicken."

David almost declined before he realized that he was hungry. The chicken smelled good, even if Sean was a terrible cook. And David could not afford to go out. He didn't want to be unmasked and he couldn't afford to eat in privacy, not unless he went to a kiosk.

"You said Artos was killed?" Sean asked, bringing two glasses of wine from the tiny kitchen. "What happened? Who did it? Why?"

David shook his head. "If I could answer any of those questions I wouldn't have to beg on your doorstep," he said. "I'm scared, Sean. I'm scared and I don't want anyone to know where I am."

Sean nodded solemnly. "You are always welcome to show up on my doorstep, David," he said. "Even though the news is bad, I'm grateful if it brought you to me. Even for only a few days."

"I'm sorry," David said, but Sean cut him off.

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"Don't be. I'm happy I can help. I'm happy if I can be with you. Even on your terms."

David closed his eyes. He had had too much emotion today already to handle Sean as well. Especially whenever his mind turned to the body, to grabbing a stone-cold bony wrist and flesh that felt soft and fake and icy-cold. Death was a new experience; he had managed to miss that before.

Now death clung to him like fear. The glass of wine, the pictures on the wall were all less real than the memory of the dead man.

David did not think about vengeance. He thought about who would have killed his mentor, his benefactor, and he could think of no one but the Septs. Only, even as full of hate of them as he was, David had never heard of the Septs killing anyone. Ever.

"There's one more thing," David said when Sean returned with a spoon of saucy. "I need access to a dreambox. Tonight. A private one where I don't need an ID to get in."

Sean looked at him and the spoon froze halfway to his mouth. "Tonight? No ID? I don't know if I can," Sean said, trying to think desperately.

The Pietà did not have dreamboxes. Those belonged to the Septs, to the wealthy or to the net-walkers. Normal people used kiosks and commercial servers.

But being in the Pietà, Sean did know a few of the powerful and wealthy. A few had been patrons. An even more select few had become friends.

Mentally Sean went through his list, biting his lip. "I don't know," he repeated. "Let me see what I can do."

David gazed into his eyes remembering more pleasant evenings. "It would mean a lot to me," he said, his voice low and full of promise.

Sean bit his lip harder. "Let me see," he said, but already David knew that he had won. Sean would manage something. Sean always did.

66 **W**hen there is no reasonable alternative, the unreasonable becomes likely." Cecile chanted the line like a mantra because nothing made sense again.

She had gone in search of David. She wanted to corner him, maybe threaten him a little with him family and the reward. Not just for the money, but because Cecile was furious at him and she wanted to get her own back. She was Sept. She was better than him, had to be better at least in data searches and information acquisition.

That was what galloped her most of all. David had traced her, knew what she was carrying and knew it was important. She should have known that and she should have been ready. She had been so very innocent then.

Cecile was alone in the Sept House. Well, not entirely alone in the building. There were the sisters in their apartments with their families and there was the night staff supervising the housekeeping. But the working sectors of the House were abandoned and the lights shut off or way too bright.

Cecile was dressed in a pale green party dress. Her hair spilled in artfully tousled curls over her shoulders and her makeup was both fashionable and extreme. Julietta had done it just after dinner, over Cecile's protests.

"The party's at nine, which means we can't arrive before nine-thirty," Valentina chattered. "But why didn't you bring a dress, Cecile? Your mother knows about the party, and I've heard that the Sept Sorian House is the oldest and the most beautiful on the island.

I wonder how they managed, they're not even really an Italian Sept, let alone Venetian."

Cecile wished that Valentina would just shut up. She knew as much about the Sept Sorian House as Tina did, but managed not to say that they had the building because no one would dare challenge Sept Sorian in anything they wanted. There were rumors and stories about Sept Sorian. They were dangerous. And Valentina didn't know anything—Sept Sorian was the first of the great Venetian Septs. In fact, much of their organization was established before the net was even a dream.

She had been vaguely interested in going, but only vaguely. She had heard enough whispers about Sept Sorian that she felt uncomfortable at the idea of entering their House, even for a gala event. Signora Tina had intimated that they were rivals with Sept Fortune in some way, and in others that they could not be trusted. Cecile's interest in the party waned rapidly as Tina and Julietta went on with their enthusiasm.

"It's our very first party as full sisters," Julietta reminded her. "And it's going to be very elegant and formal, you know. Because of the Board meeting. You have to wear make-up and make a big splash. No more boys."

"They aren't going to be here for days," Cecile stated flatly.

Valentina shrugged. "Maybe not here. But the invitation said that it was to begin the round of festivities for the meetings. So that means there'll be some serious foreign Sept-Brothers there. I love foreign accents. I wonder if there'll be any Americans? I could practice my English."

"Oh, you always want to practice English," Julietta said. "And German and Russian and Japanese and you're rotten in all of them."

Valentina eyed Julietta steadily. "But they always like to help me out," she said. "And then they talk to me half the night and then, well, if they're cute . . . Besides, do you think I plan to stay here forever? I've already applied for an opening in the Sydney House and I've heard that there'll be an opening in Seoul in the fall. I'm going to get out of here and see the world before I'm too old to really live." She lifted her shoulders elegantly and wrinkled her nose.

Julietta tittered, and suddenly Cecile realized that Julietta always tittered. Tina wasn't interested in anything except money and how much things cost and how many foreign Sept-Brothers she could attract. Between them, they had bullied Cecile into a dress they had begged off an older Sept-sister with an apartment and a date and no reason to go to this party. They had chosen this sister particularly because she was also a redhead, and they were right. Her dress looked magnificent on Cecile.

The more they dressed her like a doll, the less Cecile wanted to go. She had been to enough Sept parties. She was sick of seeing the senior apprentices and journeymen eyeing each other like meat in the butcher shop, going over considerations of Sept alliance and specialty and future incomes and housing allotments and vacation properties in their heads.

Sept Sorian was very good for that. With such an elegant house the brothers often had long waits for apartments, if they could get them at all. Though the house was large, the apartments for the Signores were proportionately huge. Younger brothers preferred to marry Sept-sisters with good prospects for living space while they waited their turn for one of the coveted apartments.

"I hear that most of their brothers *rent* apartments," Julietta said, pulling Cecile's hair into a clip and spraying it in place. "The waiting

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list is so long that the younger ones will have four or five to an apartment to split the rent, and they have to commute."

"What about their parents?" Valentina asked, awed that Julietta knew so much about the hosts of the evening.

"Oh, they don't recruit here at all," Julietta said. "There may be one or two who have families here, but mostly they have only full members who come here for assignment. I think their training program is in Sweden or Denmark or something," she said.

"Uppsala," Cecile said. "And Shanghai, Buenos Aires and Tokyo."

"Ugh," Julietta said. "Four training houses? Sounds terribly impersonal, like they're overrecruiting or something."

Valentina shook her head at Julietta. "Sorian combined with Sept Sakura two years ago. You remember the fireworks that caused. There, Cecile. Take a look. You are so beautiful that I'm jealous."

And Cecile was surprised because she really was as Julietta for once. The green dress made her skin look creamy and the hairstyle made her look much more grown up. She hardly recognized herself in the mirror.

"Well, come on," Valentina said. "We're going to be fashionably late now anyway. I don't want to arrive after all the music's over."

Cecile got up from the chair, and then sank back down. She didn't want to go. She could see it all already and it was awful. Tina searching for someone rich to flatter her and Julietta surrounded by lots of men all evening just to show off. Cecile felt sick to her stomach.

"Well, come on," Tina said again.

Cecile shook her head. "I don't feel so good," she said. It wasn't a lie. "You go on. I'll rest for a bit. Maybe my stomach will settle down."

"You aren't getting a flu, are you?" Julietta demanded. "Because I really don't want to get sick and it isn't flu season."

"No, I'm not getting the flu," Cecile said. "I just don't feel good. I've got cramps. Why don't you both go and I'll take something and call a taxi when I feel better? Okay?"

They looked at her and at each other. "Are you sure you'll be all right alone?" Tina asked. "Are you sure you don't want us to stay with you?"

"No, silly, I'll be fine in a while. I just need to rest, okay? I would feel awful if you missed the fun, really."

Julietta and Tina indulged in a few more rounds of perfunctory protests before they disappeared. Cecile sighed when they were gone, happy to finally be alone. The silence of their absence was bliss. Cecile lay on the lounge sofa in the half light for a long time enjoying the hushed abandonment. It was so pleasant when those two were gone, she realized.

Then she admitted to herself that she never really had liked Julietta or Valentina. They were silly and vacuous, even if they were smart. Monkeys could be smart. But her classmates managed to be smart on the net and oblivious to everything except clothes and boys everywhere else. She couldn't understand it.

That was not so important. What was important was that she was alone and here while everyone else was at the party. She had no intention of going to the party, no desire to call a cab. No, she was going to stay right here and she was going to find David and she was going to tell him just what she could do to him. And she could almost taste that nice big reward.

She didn't bother to take off her dress before she lay down in the dreambox. The library was deserted. One or two forlorn familiars

waited for their owners and a clock ticked loudly. Cecile wondered who had thought up that detail, which for the first time struck her as mildly unpleasant.

Sbc left the library immediately and headed toward the Mall. It was in neon phase again, light reflecting off brushed aluminum to make a dizzying display. Whoever had done this was not only good, but was obsessed with detail. None of the other Mallscape had so many light effects, each worked out and sculpted before it had been created out of the whole cloth of the net. She had heard that each of the Mallscape had been a journeyman's Masterpiece for Sept Prado.

The Mall was quiet for the Mall. Most of the shoppers here were from the other side of the world where it was daylight and not time for parties or dates or watching kids in school theatricals. The Mall never closed, but it was quiet by Cecile's usual standards. There were few people in the aisles and almost none in the shops.

She should go to another level, Cecile thought. Another place where she could truly affect life in the vast multi-dimensional city that was the net. The Mall was the center but there were businesses and classrooms, parties and porn, people who sailed through and people who stayed fixed.

She was restless and didn't want to go to any of the places she knew. She didn't want to go to the fashion talks and the diet groups. She didn't want to hang out with the lonely and the bored. She had done that for so long.

Suddenly Cecile realized that she didn't know where she wanted to go for herself. Most of the places she had frequented were places important to Julietta and Valentina, or to other Sept Sisters they had met at parties or meetings or joint classes. There were Sept talk groups and Sept flirt groups and Cecile realized that she had been tired of them all for a very long time.

She wanted something different, something new. Something that would lead her to David and the anomaly both.

She thought about it but no inspiration came. So she sat down by the fountain that was all a spray of glitter in this version, on a chair that was striking but not really comfortable here, and pondered. Faced with all the possibilities in the world and knowing what she didn't want, she couldn't figure out what she did want. But she knew she didn't want to stay here.

She went back to the library via the underground route, a two minute meander following discreet grey signs. The underground was still part of the Mall level and anyone who knew how to use it was welcome to traverse the shortcuts and avoid the tempting displays of goods in the main Mall. The library entrance down here was very discreet, the door stenciled with "Authorized Personnel Only" over a bare metal aperture.

This approach brought her not to the main reading room but to the unfrequented passageways in the undercroft of the structure. In real life they would have been full of dust and cobwebs. Here they were merely abandoned, forgotten, written into the code by someone ages ago who had wanted an easy way to get from place A to place B and C without being too obvious. It had probably been left intact because it was too much bother to rip it out.

Besides, the younger apprentices all learned their way around the labyrinth beneath the library on their own. It was invaluable training for later work in finding alternate routings and keeping well away from the main corridors. The passageways had been fun when she had been a junior girl. There were even ghost stories the girls in Sept Fortune told about them. Cecile had enjoyed telling stories for the younger students about Signora Blanca.

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Signora Blanca had been a young and beautiful member of Sept Fortune in an earlier time. Perhaps Signora Tima had known her, no one knew. But Blanca had been talented and brilliant and ambitious and had spent all her free time in extra work. Her fees were astronomical because she was so fast on her jobs and her account was the largest in the Sept.

Even though Blanca had been beautiful, she had never bothered with parties. She always said that she would find her true soul mate where her soul would fly, and where else could it fly but the net? The Sept sisters had all thought her a little strange and very romantic and left her to her ways.

After several years, Blanca had found her perfect soul mate. He was from some foreign Sept that didn't even have a house in Venice, but Blanca didn't care. They had their own life together, she insisted. They met down in these very passageways that were part of the library but below it. He wandered here, pondering questions that Blanca had never heard before.

Finally he had asked Blanca if she would come to live with him, in a place that was familiar to her and yet was not Venice. Of course Blanca agreed. Her Sept Sisters were quite put out not to be invited to the wedding, but they helped her pack her ivory lace gown and her trousseau for the journey to who knew where. Because the husband of Blanca's dreams had told her that they would meet one more time in the passages when he would tell her where to go. She wore her ivory lace wedding dress into the dream box to meet him. She had never come out.

The younger apprentices knew that Blanca and her husband were flatlined and lived in these places that were forgotten. When she had been fourteen, Cecile thought she had caught a glimpse of Blanca in her wedding dress turning a corner in the passageway. Now she thought it obvious that the legend it just a silly story for children, and Cecile was certain that every Sept had its own version of the legend.

Still, it had been ages since Cecile had bothered with this segment of the library and being down here again brought the story to mind. No matter that it was legend and that she knew there were no real ghosts in the machines, it still made her feel a delightful tremor of fear as she found herself alone in the tunnel. At least the lights were bright as they wouldn't be in real life and there was no smell.

Cecile wandered through the maze. She wondered if David knew it existed, if he knew his way around here. There were odd turnings and a lot of doors that looked like there was a whole second universe down her. In fact, it was abandoned. When she had been an apprentice they had picked a lot of the doors and found only blank static beyond. A few had been decked out gloriously. Cecile remembered one in particular that had been done as a dragon's horde with a sleeping dragon breathing gently, its iridescent scales looking as alive and real as anything outside. There had also been the room of the Arabian Nights and another that had held a masked ball every time they found the right door. Many of the girls assumed that this is where Blanca met her beau and that all the fantasy characters behind the doors were flatlines who had come here to live forever in dreams.

Cecile didn't realize that she was smiling. She closed her eyes and raised an arm and pointed randomly the way they had when they were girls. Whatever door she pointed at...

The third one down on the right. They were all the same from the outside. It was probably just going to be static, she thought, but she might as well see if her skills were still up. She didn't have anything better to do.

She touched the door and was asked for a password. "Open sesame," she said. Whoever had designed this place had had a sense of humor and respect for tradition. "Open sesame" often worked on library locks as a back door password. And it worked on this one. Which it should, since there was nothing here to be guarding at all.

When the door opened there was no static, but there was nothing she recognized, either. This was not one of the fantasy rooms she had discovered when she was a youngster. This was something—different.

She looked at it for a long time before stepping over the threshold. At first it seemed to be absolute chaos, colors and movement and sound that traveled and looped in on itself to make spaces and n-dimensional mobiles that threatened to absorb her and take her through into some other realm. It was not even the stuff of nightmares. It was more disjointed than that and not so personalized. It merely was, in itself and apart from any human expression she had ever known.

Color and sound rippled through it and Cecile almost perceived pattern before it fell back into disarray. Like looking through a kaleidoscope for a moment, she thought, before all the pieces fall apart. Yet in that one moment there was something familiar and entirely alien at the same time.

Alien. That was the word. She gasped and sucked her breath in sharply. The anomaly. It belonged here, she thought. Or something like here.

The anomaly was alien. It was alien thought touching human construct, interacting, learning, going its way. Which was why it changed things as it learned and yet never could either fit in or be wholly invisible. It followed no rules, no form of structure, that humans could imagine. It did not belong to any human thought at all.

If it were human in origin or thought, Cecile realized, there would be some thread of logic she would recognize. Even if this were an emerging being formed by the net itself, it would have to follow the laws of human organization that had laid down its core structures. She might not understand Chinese or Turkish, but she could recognize human language. She could tell it from plain noise.

This had no structure that she could discern, and she had been trained to recognize and analyze structures from the first. She knew that there must be some form of organization in this mess. There had been that momentary glimmer. Now the contact and probably the possibility of contact were gone.

Aliens in the library, in the net. It was open to all. Why couldn't they have tapped in? But from so far away—the idea made her shiver. So far away.

She closed the door behind her and stood in the faux stone corridor again. She closed her eyes, raised her arm and whirled, this time actually stumbling in the opposite direction of the door she had opened.

The new choice looked much like the old, only with a number stenciled in blue on the side of it. She didn't remember seeing any numbers before, but then she had been young and hadn't paid attention to detail all the time. Maybe it had been here all along.

She tried "open sesame" on this door and it wouldn't budge. She tried again but the door remained firmly locked against her. There were a few other common library passwords. She racked her brain to think of them. Some were very old and some were Sept specific. "Jason," she said. "Dilbert, cat in the hat."

Still nothing. That was even stranger. In frustration she put her hands to the surface and pushed.

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It gave. This room was as alien as the other, swirling and weird and completely without human presence or precedence. Dimension opened and closed as the entire thing mutated. She didn't know what it was, only that it nauseated her. She lost her sense of direction and her balance at the same time. Something about the movement and the sound together were disorienting and she groped for the door with her eyes closed.

The walls felt smooth all around. The noise alone was enough to make her gag, and she screamed to drown it out. Her voice was swallowed by the roaring tumult so that she couldn't even hear her own contribution to the din.

Cecilie panicked. She was sure there was no way out, no rest, nothing beyond the next moment of misery. She screamed again, clamped her hands over her ears, and rushed headlong straight ahead of her.

Then she was in the corridor again and it was quiet. She opened her eyes warily, but there was only the quiet faux stone and the endless doors. She lowered her hands from her ears. Whatever lurked behind the door was well shielded.

Here it was safe, it was sane. She could hear her own thoughts again. She could think. Thinking had been impossible in the confusion of alien images. She slumped in the hallway and leaned back on the cool smoothness of the beautifully textured program as her mind cleared.

She would never have gone to the trouble to create such a rich sensuous as the original programmers of the library had. She wouldn't be given the time for the project. Newer construction was more sketched in, and never included the delicate touches of temperature perception and tactile stimulation of the original achieves.

The builders of those had created those for love. They had competed to produce the best architecture, the most perfect semblance to real life. Old places in the net were real places. Even the sea was utterly realized, reproduced and created in perfect metaphor in an outmoded aesthetic.

Nothing that existed in the net had to look or feel like anything outside. But no one bothered anymore to make things solid and strong, and so there was no psychic comfort. There was no privacy either, and no grounding. The abstract structures and ideological architectures that Cecilie had been trained to produce might be more honest in the environment, but they felt much less sincere to living flesh. Sometimes members of Sept Prado would produce something finally detailed for a client who was willing to spend the extra for it. These days not many people wanted to pay for the massive number of fine details such a production required. Sept Prado was not inexpensive.

Cecilie was grateful for the rich layers of embedded programming around her, for the solidity that supported her and made her feel safe. The metaphor was substantial enough to make her believe that whatever was on the other side of that door would stay on the other side of that door, that she could walk away and forget this archive existed.

It wasn't until she thought that that she realized precisely what the thing had been. The thing itself was not the alien. It was the alien's archive.

The more she thought about it the more she knew she was right. The images and colors that had assaulted her, completely without any order she could observe, had been so disconcerting because they had been both familiar and jumbled. The more she tried to think of what she had actually seen, broken down and frozen rather than flung

randomly through other images equally absurd, is that they were all of things that were frighteningly mundane.

She remembered a whale. Plates from a popular women's fashion disk had swum through markings that she recognized as differential equations, but written in the kindergarten colors of the crayon box in a hand that was unfamiliar with the notation.

Everything had been stripped from its context.

Or rather, it had all been isolated from her context.

Suddenly she had an image of the anomalies as alien librarians in camouflage. When the anomaly moved through the net it was collecting things for the cache. Cecilie wondered if her bitten pens were stored somewhere in the bedlam that lay behind the doors.

That immediately brought to her mind Signora Fascista, which had not been her real name but was how all the girls thought of her. She had been ancient, her wispy white hair pulled back severely, her back ramrod straight. Ella Fascista had been the head archivist for Sept Fortune since well before Cecilie had been born. She had never married to the girls' knowledge, and three years ago she had had a dinner party and retired to the Sept's Hawaii resort.

The girls would have none of it, though. They speculated that she had really gone to turn the resort into one of the great secret archives that none of the other Septs could access. Ella Fascista would never retire, not until she was dead. And even then, she would probably go flatline in the archive.

Cecilie suddenly wondered if the anomaly had not been alien at all, but a ghost of Signora Fascista. Then she covered her face with her hands. That was ridiculous. Anyone would think she was a baby, thinking things like that.

Besides, Ella Fascista would never ever have permitted anything to look like the jumble of information behind the door. Ella Fascista loved order. She had no higher god than the Catalog, no greater good than to assign categories and files to every entry. No one, not in the whole history of the world, had worshipped organization the way Signora Fascista had.

She had really been very kind, Cecilie realized suddenly as she selected the years of classes and tutorials under the elderly archivist. She hadn't deserved the nasty sobriquet at all, except for her passion for structure in every aspect of life. The old woman—her name had been Signora Margherita, Cecilie recalled—had always smiled at her classes and seemed to enjoy teaching them how to navigate through the various repositories and sites throughout the net. Before the three years of intensive search training the librarian had already taught them to find information of every sort, and where to find out where to locate data.

She had sent them on "treasure hunts" as she had called them, asking for such esoteric tidbits as debates on Fimish elections before the establishment of the Eurostate or recipes for squash cakes made without butter. Cecilie had enjoyed the "treasure hunts." They had been a wonderful game. It wasn't until much later that she realized how much she had learned from the archivist, who was no longer there to receive any thanks or gratitude.

But if Signora Margherita (it seemed wrong and cruel to even think of her by the name the young girls had used) had been an alien with access to the net, she would be gathering information and categorizing it. She would be trying to make sense of what she found, and finding associations. No, she wouldn't have merely been trying, she would have made some sort of sense of it. Her juniors would be on constant treasure hunts to gather data that she would then assemble this way

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and that until something fit. She was patient and she would try every permutation until things fell into some sort of rational configuration.

The aliens must be trying to sort out their collection. Just because it didn't make sense to Cecile didn't mean that the categories being tried didn't make sense to an alien. Cecile pondered the idea, and the more she thought about it the more she was sure it was true.

These were aliens—true aliens from another solar system. Humanity had achieved first contact and didn't even know.

All the stories and shows she'd seen suddenly seemed naive and laughable. Of course this is what they would do. Information above all, wasn't that what every Sept sister knew as the universal exchange. She herself had been trained to collect data before making a presence known. That was the only intelligent way to go about it, especially when the data were so outlandish and incomprehensible.

Perhaps they were so far away that it would be impossible to travel. Perhaps then the anomaly, the collectors, were bots running sweeps through the net, downloading whatever they had been programmed to think was important. Then they sent everything back home—wherever that was.

The more Cecile thought about it, the more she knew that she had discovered the truth. In fact, by the time she traversed the undercroft to emerge into the main reading room of the Library the whole notion seemed quite normal. Of course there were aliens on the net. Where else would they be?

She sat in her normal seat and called for Zizi. The bird of paradise arrived in a flutter of turquoise feathers and a shrill cry. Cecile wondered if she ought to redo the familiar's voice yet again. The cry was perfectly authentic and wonderfully bird-like, but it was also obnoxious in the Library quiet. Perhaps she should just edit it down a bit.

Zizi landed on her shoulder and settled down to preen. Cecile sighed. "Not now," she told the familiar. "I want you to run a term-check on outgoing signals. You're looking for coherent pattern directed at some astronomical location. Find the location. There should be a higher percentage of flow to one than to any other, or compared to what is lost in background."

Zizi looked up from his feathers. "That is difficult. It will take time."

"Just do it," Cecile said, wondering wherever the familiar had picked up the idea it could contradict its creator.

Zizi sighed, ruffled its feathers, and took off. Cecile wondered if she should build another familiar on a more obedient template. A dog, perhaps, or a mythical creature for which someone else had written the template ages ago, and she wouldn't be responsible if it went off with its own quirks like Zizi. Signora Angelina had warned her she'd have much more trouble creating her own template for the bird of paradise. Cecile wished she'd listened.

Now she was both exhausted and excited at the same time. She couldn't sleep, but she also was too tired to do anything more useful. Probably it was time to get out of the dreambox. She accessed the clock with a thought and the time showed up in red digits floating above the oak slab table. It was early, and she could still catch a cab and go to the party. But the idea of going to that party where she knew few people and not one who'd care about her discovery made her even more tired. Maybe she'd just go home.

In the middle of her considering her options she heard footsteps through the reading room. She glanced up, wondering who else was ditching the party and working instead.

Damn if it wasn't David Gavilli in the sun mask stalking through the reading room where he didn't belong.

Anger banished her exhaustion. She got up from her place and confronted him in the middle of the room in front of the fireplace. Here their footsteps were muffled by a red Oriental rug that somehow set off his cobalt blue costume. The blazing golden sun mask seemed softened and made richer by the brass and golden wood that surrounded them.

This infuriated Cecile even more. Bad enough he should have the audacity to come in here, and in that gaudy, attention gathering costume, no less. But for her own environment to lend dignity and grace to what she considered show and arrogance compounded her disapproval.

"What are you doing here?" she hissed.

David looked at her but the mask he wore revealed no expression. "I come here sometimes," he said, his voice completely neutral to her perception. "Tonight I came to find you."

"You're always finding me," Cecile replied. "And you know something, you shouldn't be so glad. Because I have something to tell you, David Gavilli. Yes, I know who you are and how much you are worth to your family and how to let them know that you're safe and sound and wasting time playing at being a net.walker in Venice. I'm sure they'd be happy to have the information."

The sun flickered, and Cecile thought that the gold glittered a little less.

"But you can't," David protested. "Not when we're so close."

There were things she disliked about the virtual community. Right now what bothered her was that if she hit him, it wouldn't do a thing. Her hand would just pass right through him and he wouldn't notice anything at all uncomfortable, and she would have given herself away.

"Look, I don't know why you're bothering me," she said. "I'll give you one more chance, because right now I've got better things on my mind than some spoiled rich kid who thinks this is just one more amusing playground. I probably should have my head examined, but I'm too tired to bother dealing with you now. Get out of here, stay away from me, and I won't tell your family where you are. Though I have every reason in the world to do it. It would sure make my reputation and my rates would go way beyond journeyman. So I'm taking a financial loss on this. Go away."

David stood stark still. "But that isn't why I came. I need your help. The old man is dead. Murdered."

"You need the police," Cecile replied. "Or a priest. There's nothing I can do about that at all."

"You're expert in investigation, in tracking down information. You found out about me and no one else has ever done that."

Or ever told you, Cecile thought. Privately, she thought that the old man must have known all along and had his own reasons for keeping silent. Maybe he was waiting for the right time. Maybe he just didn't need the money.

"I can pay your fees," the sun told her.

Cecile resisted the impulse to make an impolite noise. "Do you mean you're proposing a formal contract for a search?" she asked.

"If that's the only way to do it," he said. "If you got me, you're good. Then you'll be able to tell who killed Artos."

"Why do you care?" she asked, finally. She couldn't believe that David Gavilli cared about anything very much. Then she understood his reasoning and she groaned. "To save yourself, you mean. They think you did it."

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The sun merely nodded.

"Oh, this is great this is just wonderful," she muttered. "Cecilie Sept-Fortune, private eye. I've always wanted to do that as much as I've wanted to become a, a, a lion tamer."

"The contract will be for the same amount as you would get from my family for locating me," he said softly.

Cecilie could well believe it. Kill two birds, as her father would say. Pay her off and clear himself at the same time.

Of course, nothing prevented her from turning her documentation over to his family after the contract was executed. The realization filled her with both dread and glee—and absolute horror at herself. A few months ago she would never have considered it. The idea of turning in a client was beyond belief.

Now she was becoming someone she didn't recognize and she felt filthy. One little job, one graduation exercise, and already matters of principle and conscience eluded her. After all, she really was thinking of accepting Gavrilis's offer. Greed was all tangled up with ambition and she couldn't separate the two. They were very ugly and Cecilie could not look at them and recognize herself.

Also, she insisted stubbornly, he could be innocent. At least of murder, or at least of this murder.

As she considered, she came to the conclusion that he probably was innocent. The idea did not appeal to her. She liked it better when she thought she could trap him in his oh-too-clever machinations. She did not like Gavrilis at all and she would much rather see him tried for murder than clear him.

Down deep something else said that she had to try. That because she despised him she had all the more reason to do the job. The vestiges of ideals that had retreated, wounded and bleeding, at her graduation, proved that they were far from dead.

"Draw the contract," she heard herself say. "We'll file it with the Sept as an exclusive. That's sometimes hard to get for someone as inexperienced as me."

"You'll do it, then?" he asked, incredulous.

Cecilie had the urge to say no and walk. Instead she just sighed. "I just said I would, didn't I? I'm not going to repeat things because you don't get it. Anyway, when you send in the voucher and authorization for my services, include a confidential packet with as much information about the old man as you can possibly find or remember. I need a few places to at least start a search. I suppose I don't have to explain to you how to do a confidential."

"I think I can manage," David replied. Then he walked away and Cecilie was glad to see him go.

CHAPTER ELEVEN

They were arriving. From every corner of the world, from every House and Sept, the members of the Sept Board and their associates, their entourages and their advisors and seniors, were descending upon Venice. It was not the first Board meeting convened here, but it was certainly the most historic.

Sept-Fortune was full. There were Sept-Sisters, both Sept Fortune and associated Septs, lingering in the halls, sitting on the benches in the garden and wandering through the loggia of the palazzo. Parlors that had been closed off were cleaned and aired. The game room was constantly full of Sept sisters playing backgammon and cards. Even the ballroom had been opened and set up with desks and microlinks so that their guests could have work space and check e-mail, though there wasn't room for anything more than text display.

Dinner was served twice a night, the Signori eating with the Board members and the journeymen and below eating later, a hodgepodge of what had been leftover from the elegant dinner and something plain and nourishing to make up for any shortages.

Cecilie didn't eat at the House. She could get home before the second serving and eat with her parents. They preferred that, anyway, and she would rather go home than stay in the too-crowded palazzo.

Besides, she had a contract to fulfill and she had begun the job already. In spite of the constant chatter and hushed expectation of what the Board would do and the great changes that were happening in the world, Cecilie tried to concentrate on work. After her conversation with David, though, she couldn't help but hear the Board chatter in a very different light. It was much easier to pay attention to the task at hand than to listen to the bits of gossip flying around the House and wonder if the Board really did mean to take over the world.

So far she had just run the basic credit checks and deed accounts for David's mentor. The old man had checked out as expected, well-to-do but not in the same class as a family like the Gavrilis. He had inherited the palazzo and it was only partially restored. The remaining work would cost more than he had in reserves, which was about the situation of most of the ancient grand houses that had been inherited. Left to decay for lack of funds, they were part of the reason that Venice was crumbling as well as drowning. A few very wealthy outsiders had purchased and restored those that hadn't been acquired by the Septs at the end of the last century when the Sept system first became powerful.

Cecilie had been ready to go home after spending all day running down dull accounts. She had her mask in one hand and her fare card in the other. Still, she hesitated. She disliked traversing the long corridors of the ground floor before she could get outside. Usually the hallways that were pleasantly silent as she passed public rooms normally reserved for wedding receptions and musical soirees. In normal times the only people in the main passageway were the very youngest apprentices, who often used the space to run races or play soccer. Cecilie remembered when she and Juliette were seriously punished for roller skating down the long, narrow hall.

Everything was different with the Board members in town. All the doors were thrown open and there was traffic passing through all the time. The blended conversations of a hundred whispers became a hushed roar. Cecilie couldn't help but stare at the senior sisters, dressed in a million colors of finery she had not imagined. Some wore variations and modernizations of national dress and she spotted a glorious shell pink kimono worn as a jacket over charcoal slacks and blouse. One of the sisters wore an elegant African gown in vibrant shades of yellow that somehow managed to look regal without detracting from the sister's delicate beauty.

Cecilie was amazed. For all she had been trained in a great urban House and had gone skiing in San Moritz and swimming on the Costa del Sol, for all the sophistication and elegance Cecilie had lived with all her life, she realized that there were many ways in which she was very provincial. It made her feel ashamed and very young.

Out of nowhere a sister in a designer suit laid a hand on Cecilie's shoulder. "Do you play bridge?" she asked in very poor Italian.

Cecilie did play bridge. It had been one of the required skills in training, along with backgammon, tennis, and tea. She nodded and murmured in the affirmative even though she didn't want to stay. For all the various forms of etiquette she had been taught, Cecilie didn't quite know how to say no to a sister so senior that she was either a

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Board member or the assistant to one. So Cecilia was whisked inside the game room, seated on a delicately gilded chair and dealt a hand.

"What they're doing with the banks is absurd," the sister who had recruited Cecilia said. "We only own fifty-two, at least outright in our Sept. Most of our capital is tied up in real estate and that's not as liquid as the San Marco portfolios."

"But Leah, didn't Fumiko buy in to the portfolio project?" asked Cecilia's partner. "The yield overall has been twenty-seven percent. If we liquidate those together with San Marco, we still retain our real estate but we can go in on equal shares with the others."

"Which will leave us cash poor," a sister with iron-grey hair said firmly. "We can't afford that, we'll end up with no flexibility. That's the basic problem with the proposal as it's stated now. We have to reevaluate the relative financial power of each of the Septs individually before trying to create a consolidated entity."

"Maybe we can't do it," Leah said in her atrocious accent. "Maybe we've been too conservative all along, buying land and buildings and not cashing in on the more volatile markets."

The sister with the grey hair shook her head, took a trick, and said, "Not at all. Look at the Septs that haven't invested for the long haul. They're the ones in trouble and I'll bet you more than this game that they're the leaders in the whole consolidation movement. They've got to cover their own assets."

"You mean Sept Sorian again," Cecilia's partner said before she bid. "It isn't that they don't have the resources, but that they're turning into the bully boys of the movement. Otherwise I can see the advantages, but I wouldn't trust Sept Sorian to offer a glass of wine without expecting to get some benefit in return."

"But what does that have to do with the Board meeting?" Cecilia asked. It wasn't until the others looked at her that she realized she had spoken aloud.

The woman with the grey hair sighed. "They don't teach you much about economics, do they?" she said.

"Signora Angelina taught a great deal about economics," Cecilia defended her education.

The grey-haired woman shook her head. "Angelina knows a lot about how to do money trades, and what certain economic factors can indicate, but she doesn't teach the girls about how the Septs operate financially. How do you think we have the power we have?"

"Because we can get any information anyone needs," Cecilia recited her first year lesson by rote. "And we can set up any kind of security system. Because we are experts in searches, security and information we command a very high price. Each Sept sister tithes both to the Sept as a whole and to her own House of residence, but our commissions are generally high enough that even subtracting both those donations leaves the individual able to afford just about anything she could desire. And most of what she cannot afford outright, the Sept already owns."

Leah shook her head. "That's for little girls. Now, how do you think that we have created the power base we have and maintain the life-style we offer our sisters? Your title to the House pays for the House expenses. The House itself is owned outright by the Sept. Your title to the Sept altogether goes to create the working capital that we invest. So as a group our wealth grows and we can afford to live off the interest of our investments and keep our endowment intact. But by investing what amounts to a fairly substantial sum over decades, we have accumulated larger and larger reserves."

"Only they're not simply reserves or investments or capital. As we have more we are in the position of owning more of the

manufacturing of the technology we use. The Septs control how many dreamboxes are built and how many kiosks are placed. How many text interfaces there are and where they are available and at what price. We control our technology, and more and more banks and other companies. Our own Sept owns more real estate than any other single institution in the Eurostate. What does that tell you?"

Cecilia felt their eyes on her ice cold. These women knew something, had some idea that she suddenly suspected was very foreign to her. "That we're powerful," Cecilia said slowly. "But even without all that wealth we'd be powerful, because we have access to information."

Leah shook her head. "No, that's backwards. You see, access to information has given us access to wealth, and between the two we've managed to take more power than anyone realized. Of course, part of that is because we're separated into different Septs. We work together when we can, but essentially none of the Septs consult each other before making any decisions. Some of the original hacker anarchy still remains. Sept Sorian wants to change all that, and while they have the seeds of a good idea, they aren't the ones who should be leading it. So if we don't manage to consolidate our power it's because we don't trust Sept Sorian or each other, not because we don't have the base to organize and coordinate to regulate the cyberverse."

Cecilia swallowed hard. "You mean we're taking over the world?"

All three of the sisters laughed together. "No, little one," Cecilia's partner said softly. "We already have taken over the world. Now we just have to figure out how not to squabble over the profits. Sept Sorian just wants to be in charge of everything, and several of the other Septs want to follow Sept-Fortune's plan instead. They really don't teach you girls the important end of the politics, do they?"

"The important politics," Cecilia echoed, half hoping and half afraid.

Her bridge partner laughed again. "Well, important to us, at least," she said lightly. "I believe it was Sonja's deal."

Cecilia could hardly keep her eyes on her cards, and she bid two hands very badly. Finally the woman who'd been her partner sighed. "I guess we're keeping you out too late," she said.

Cecilia put down her cards, thanked them, and left the table shame-faced. She didn't know if it bothered her more that she had played so badly or that she had learned something more that supported David's wild allegations.

Maybe they weren't so wild. The sisters she had played with had agreed so easily that she couldn't doubt their sincerity. It seemed the real problem was not whether the Septs were going to rule the world, but how they were going to organize themselves. Sept Sorian versus Sept-Fortune was no surprise. The two groups had feuded since the beginning, and probably before.

Now she wondered if, as a Sept sister, she had any ethics left at all. She wasn't sure if she could bear to find more evidence that she the Sept she had regarded as her home and family were involved in a megalomaniacal battle with others of their own kind. She was disgusted with what she had heard but she couldn't discount it. Nor did she have any idea of what she should do.

It made her think of David. Arrogant rich brat that he was, he still had had the guts to leave, to go off and do what he believed in without his family's approval—and without the comfort of their support. She despised him, but she couldn't help but think that part of what she hated in him was that he showed her her own weakness.

Absolute Magnitude

The opening of the Sept Board meeting was a civic event. David watched from Sean's tiny balcony wearing one of Sean's plain white masks. The sun was too conspicuous here, with the whole Board of the Septs marching below in stately style.

Though he was not a Venetian, it offended David to see them greeted so formally, handed the keys to the city, feted and treated with deference. That was more than the Serenissima owed them. Or owed anybody. Streets festooned with banners and hangings decorating balconies made it look like Carnivale, though that was months past.

Serenissima was above them. They should be honored that they were permitted to meet in Venice and not the other way around. David suddenly realized what he was thinking and chuckled to himself. Artos had implanted in him a deep love for the city, and he had become Venetian to the core. His Roman family would be horrified. But he could no longer imagine walking on the streets with his face naked to the world or eating bland Roman cuisine ever again.

The parade was passing by. He checked to make sure that no flesh showed, that his costume concealed his age and gender absolutely before he ran down the stairs to join the crowd in the street. He followed, lost in the throng, as they made their way through the old streets to the Board Hall, where the actual meetings would take place.

On the steps a Pietà choir greeted them with Mozart, something from the *Magic Flute*. David had always loved that opera, and it seemed somehow appropriate to him for his own personal trials. He scanned the singers, almost recognizable in their soft cloth half-masks, even though he knew none of them was Sean.

David glanced back over the masked crowd. He wondered if Cecilia was here and he hoped not. He hoped she was in her dreambox doing exactly what he had hired her to do. Once he was free of any suspicion he could move out of Sean's tiny apartment that felt like a cage. He could resume his usual routines and contact his friends.

More than freedom, he wanted to practice again. In the apartment that had been carved out of the old house in the ghetto, the walls were too thin for him to play jazz. He spent hours a day working on the approved literature, mainly to keep his hands in practice, but the desire to improvise came over him like lust. And there was nothing he could do. He knew he should be glad that he had a place to stay at all.

Now the Board members filed in one at a time, parading the length of the stone porch to display their costumes. There were images that no one had seen, things that had been commissioned by the finest maskmakers months ago and were now shown in public for the first time. There was one costume of a Hindu god that David longed for, and another all made from iridescent feathers. Next year a few of these would be reproduced in the most exclusive maskmakers' shops for wealthy fashion-mongers. But until the end of the meetings, the Board members would be the only ones in the city in such extravagant costumes.

Idly, David wondered if anyone thought about what good targets that made them. And they supposed to be such great experts on security and all. He could just see them picked out in this mob like Artos had been.

He felt a strange twinge inside, something he hadn't felt when he had found the body or gone into the dreambox looking for Cecilia. He didn't recognize the feeling until it had passed, and then he realized that it had been grief. He missed Artos, missed the music and the acerbic comments that had been about the Septs and the Pietà and everyone in Venice twice as often as they'd been about him. He

missed Artos. And he realized with a pang that Artos had cared about him. It was not a thing the old man would admit.

The whole of the Board was inside now. The speeches were done and the choir in their sky blue robes was entering the building like a religious procession. The crowd was dispersing. David noted the time and turned immediately.

He had an appointment and he did not want to be late—nor did he want to appear in this common costume. If he ran, if everything was laid out and ready the way he thought he had arranged things, if he could catch a taxi, he might just make it nearly on time.

"I trust I haven't kept you waiting long," David Gavrillic said as he sat in the red leather chair. He crossed his legs, now clad in appropriately somber charcoal. The suit was one that Artos had selected, more stylish than the norm back home. His shirt was white silk and the cloth half-mask over his eyes was black. It was appropriate for mourning.

There were five other people present. One was Artos' lawyer, a woman David had met on several occasions. She was not only a very good lawyer, but she had an admirable figure and dressed with just the right balance of taste and panache. He had never seen her unmasked so he had no idea what her face looked like, and she was decently masked now in the same black cloth half-mask that was always appropriate for serious business dealings. Only her mask, with her usual flair, had a subtle black-on-black design embroidered across the entire surface. David wasn't sure whether this was for the sake of fashion alone, or to display wealth on an article of clothing that was ubiquitous and generally cut across class boundaries.

She was seated not behind a desk, but behind an antique inlaid table that had no text reader or minilink, or even a mail folder. The table, as always, was perfectly bare, showing off the intricate marquetry of a lost century.

Three of the other people in the room were masked as he was, but even without seeing their faces he was certain they were strangers. One man was tall and lanky and somehow managed to recline in his armchair in a way that suggested boredom. The woman looked shapeless under a sack parading as a dress. She looked uncomfortable, as if the mask or the dress was unaccustomed for her. She shifted and pulled at her skirts every few minutes. David wondered what she usually wore.

The third man wore the same mask, but his black garments were casual and seemed to fit him in a way that suggested this was his normal garb. His hair was cut very close to his skull and he had a beard. David was certain he was a musician, though he couldn't place the two others.

The fifth, the unmasked man who stood in the back near the door, was clearly a policeman. They were watching him. David knew they would be here, and he had thought seriously about not coming. But he knew that the police, being simple, would take that as an admission of guilt. So long as they were not going to arrest him immediately he was fairly certain that he could fade back into the city again.

So long as they were not going to arrest him. Suddenly David wondered if this had been a good idea. Perhaps he shouldn't have come at all, the way Sean had pleaded with him. Sean had always been in trouble and always assumed the worst so David hadn't listened. Now he wished he had—sometimes Sean was right.

Still, he believed he had no choice. He couldn't ignore Artos' last summons. Nor could he pretend that he wasn't desperately curious as

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to who these people were and what the will contained. Besides, he was absolutely and utterly certain that no one would ever arrest him.

He was not guilty.

And he was David Gavrilis. Suddenly David realized that he was ready to admit to that, to use his family if he needed them. No police force was stupid enough to try to pin a murder on him. What where they going to say, that he had killed the old man for his money? David could buy and sell him ten times and not notice it.

Besides which, no one knew what was in the old man's will. It had been his great secret. David didn't really care so much for possessions—he had plenty of them if he desired—but he wanted to know why the old man had been so utterly delighted in keeping his will undisclosed.

Slowly the lawyer brought out a red leather folio matching the upholstery in the room. She placed it in the exact center of the desk and opened it as ceremoniously as the Board meeting had been opened by the city, and with a good deal more decorum.

"The will of Arturo Batista Camerillo," the lawyer said. "You have been called here so that we can read his will, which was never filed with any service or accessible anywhere except in these offices. This was a strictly paper-secure document that was hand written on photosensitive paper. When I withdraw the will from the protective envelope it should be dark blue. It will whiten within seconds of exposure to any light."

David tried not to sigh. There was no need for the explanation, everyone knew about security paper. When he was little he didn't even know there was paper that didn't have to be sealed in a treated envelope so it would change color at any sign of tampering. For all the security systems in the net, old fashioned paper was still the best way to keep a secret. His parents' chef had used it for dinner menus.

The lawyer withdrew the document. It was still the deep blue that indicated it had remained sealed since it was written. In less than a second it had already begun to fade. By the time the lawyer had drawn it into her hands ceremoniously it was pale enough to read.

David didn't even bother listening to the familiar opening. When had he written his first will? When he was ten? Twelve? He remembered the writing clearly enough. He and his cousin Matteo had filched the paper from the kitchen and had spent the entire day figuring out who in the family deserved which games and books and each of their treasures. He had been most concerned about his music, David remembered suddenly. He had spent so much time worrying who should get his collection of download concerts and archival studio recordings of great keyboard artists.

But now the lawyer was getting to the good parts and David paid attention. "To the Holy Innocents School, all of my musical instruments, recordings, and twenty billion lire for scholarships and improvements in their musical program. Also to the Holy Innocents, my property in Padua adjoining the school grounds, including the house, with the provision that the current tenants are to remain until their death." The woman in the shapeless sack sat up straighter. She must be one of the sisters that ran the charity school.

David had heard of the school. Who had not? They were perpetually in need, a favorite recipient of the proceeds of fund-raising balls and society parties. Holy Innocents was a one of the best shelters for abandoned children, the only one David knew of where there were never any rumors that the most attractive and brightest charges were sold to child merchants on their way to South America or Asia.

Still, even for a fashionable charity, the old man's bequest had been far more than generous.

"To Sept Sorian I leave my paintings and the collection of Murano glass."

David blinked. What had Artos to do with Sept Sorian? The old man had hated the Septs. And the bequest was small and personal, nothing that would matter to the Sept either way. As if a Sept as powerful and rich as Sorian needed more Murano glass or a few second-rate Romantic paintings.

Unless there was something in them. Or . . . David had to try very hard not to smile. It would be way too easy for him to set up the bequest before it was delivered, to make sure that every painting carried an eavesdropper discreetly daubed onto the back of the canvas. That must have been what the old man had meant, David thought, because otherwise it made no sense whatsoever.

But the Sept brother there to listen to the reading and accept what had been given seemed honestly pleased as well as gracious.

"To Gabriel DiNunnzio, proprietor of the Luna Café, the sum of fifty million lire."

The man dressed all in black blinked and shifted his weight. What showed of his face went bright red. "He didn't need to do that," DiNunnzio said.

The lawyer shrugged. "He didn't need to do any of it," she reminded them all. "He did as he wished, and so you are to accept it as simply his wishes."

"But he didn't have that kind of money," DiNunnzio said, a wondering question in his tone. "He worked for me. Played regular gigs, got the band in."

"I assure you, he did indeed have the money," the lawyer said, her patience wearing thin. She didn't normally deal with people of DiNunnzio's class, and in fact had argued quite vehemently against even this modest legacy. But every time she had argued the old man had increased the amount until she had just stopped short and written it in as he wanted.

"And to my dear protégé David Fillipo, also known as David Gavrilis, my house, where he has lived for the past three years, on the condition that he will remain there and will finish the restorations."

David wanted to bolt immediately. First of all, he had never told the old man his true name. Though it didn't come completely as a shock that Artos had known, David certainly hadn't expected it in a public document. The old man had turned him over, had ruined him!

And yet, none of the others in the quiet office even turned in his direction. Maybe they didn't know. Maybe they had simply been well trained. He would believe that of the nun and the Sept brother. DiNunnzio had probably never even heard of the Gavrilis. If he had, he would never believe that one of the *real* Gavrilis had played for low wages in his club on a regular basis.

The lawyer was wrapping up, discussing her own position as executor of the estate and how long it would take before they could actually take possession. The Sept brother and the nun discussed how much the taxes would be and whether the estate could pay them. DiNunnzio stood there looking stunned. David wanted to shut them up, to tell them all about how long it would take and how the taxes would work and all the things he had been relentlessly drilled in when he would much rather have been playing the piano or wandering through the net.

Instead he rose and, without a word to any of them, went to the door.

The policeman was more discreet than he had expected and waited until he was alone in the hallway to approach. "You were instructed not to leave the city," the detective said reproachfully.

Absolute Magnitude

"I haven't left," David replied.

"We've been looking for you," the officer stated.

David shrugged. "If you must know, I've been spending time with a lover. I was upset by the old man's death, finding him that way. I didn't want to be alone."

The detective cleared his throat carefully. "And who is this lover? May we have an address in case we need to contact you?"

David was ready to give it and then realized that he could be putting Sean in danger. Sean was already volatile, unpredictable, and had been in trouble all of his life. The last thing he needed was a visit from the police. He could go off at them, David thought. For no reason, or any reason, because he always expected the worst. He still was worried that the charges that had forced him to leave home so long ago would catch up with him, and that he would be arrested and turned over to a tribunal.

Nor was his fear unfounded. David had not taken Sean's fears seriously until he realized the extent of the situation. Now he knew better than he would like that Sean would go to jail for the rest of his life. Before the days of United Europe, Sean would have hanged if he'd been found, and David wondered if that was not the more compassionate sentence.

David shrugged. "That won't be necessary. I'll be back at the old man's palazzo, now that I have the right to be there."

The detective raised one eyebrow. "We'll be keeping tabs on you."

David shook his head and smiled slightly. "I assumed nothing different," he replied. "Only don't waste too much time. Because I didn't kill Artos Camerillo and I would like the person who did caught. Frankly, I am somewhat concerned that I might be in danger."

The detective looked puzzled. "Oh, really. Because of your association with Mr. Camerillo? Why do you think that's dangerous?"

"Because someone killed him," David said. Then he let the anger pass through and thought more clearly. He had always had an aversion to aiding the police, and Sean would think him a traitor for even talking to one of them. But the police should be on his side this time. That was a hard thing to remember, harder when they didn't quite acknowledge or believe it themselves.

"We played jazz at the Luna," David said softly, honestly trying to be helpful. "There are a lot of people here who think that's subversive or worse. The old man was dedicated to non-approved music. He taught me how to play and I owe him. And I'm going to keep jazz alive here even if it's only this side of legal and the Pieta and the Septs would do whatever they can to close us down. That's what I think. That the Pieta or the Septs wanted jazz dead in Venice so that we would only hear approved music and think approved thoughts."

The detective shook his head. "You really believe this is all about music? What about money, about the land or the palazzo?"

David forced a smile. "I don't think the nuns of Holy Innocents commit murder for bequests they don't know they're getting. As for the palazzo, well, you heard my name. Do you honestly think I would bother? Besides, it will cost more to restore than the thing is worth."

"You mean you really are one of the Gavrilis?" the policeman asked, disbelieving.

"It doesn't really matter," David said softly. "But yes, I am."

The detective scratched his head. "You know, when I read the report I thought it was pretty clear. I was surprised that you weren't arrested on the spot. But now, I'm not so sure. I think we need to look into more of this. But don't let that make you cocky. You're still our number one suspect. And you're not going to disappear."

David shook his head. The detective smiled grimly. "Oh, no, not that easy, Mr. Gavrilis. Put out your hand."

David wanted to bolt. Better to get cut down than have one of those bracelets... Obediently he held out his arm. He had done nothing but all wrong and there was no reason to be afraid. Only there was an ominous note in the snick as the lock hit home and activated.

It looked like a plain steel bracelet, no different than hundreds on sale at jewelry stores all over the city. Only inside this one was a homing beacon. He couldn't escape—and he couldn't take it off. Any tampering with the circuit would bring the authorities faster than he could run and was grounds for immediate incarceration. No matter how innocent he was.

All of Truth can be expressed in mathematical ideas. Music was both Beauty and Truth at the same time, creating the patterns and fulfilling them in a single gesture. Music was the manifestation of mathematics, its reflection and its expression all together.

And yet, somehow, this concert was not working. This was not the usual Pieta performance, keeping the order of the universe in line. Lina felt it. Her own voice, while behaving reasonably, was not consuming her mind. The music was in her head and it was contained. It wasn't surging through the room, through the people listening, needing the extra strength and clarity the music could give.

They were in the main salon of the Palazzo Sept, the gathering hall for the Board. The concert was part of the Board meeting. Pieta members were contracted to stay in the hall and sing the entire time the Board was engaged. Day and night, mealtimes and worktimes, they sang exactly the pieces the Maestro had selected. There were very few that Maestro thought would truly create the right frame of mind for this meeting, so seventy-three minutes of music were repeated over and over and over again.

Lina hated Board duty already, and it was only the second day. She got tired of the same music and wondered why the Board members didn't protest. But perhaps they were used to things that merely did them good and added nothing to the aesthetic experience.

Still, in Lina's experience there was a feeling of unity underlying the music. The Board might disagree, surely, often they did. But in the past there had always been a harmony of vision, a fluidity between the musicians and the sept-members, a silent acknowledgement that together they were responsible for the system. Together they were responsible for the continuation of life, of civilization, of all the things that made life worthwhile. Together they were the embodiment of evolution, that humanity had come to this, and alone.

Today there was no together. The notes were discrete and did not merge into the whole. The Board members were distant from the music and from each other.

Lina saw it, heard snippets of what they said during her break rotations sitting in the buffet room across from the salon. Members of the Pieta were always treated well. In their own way they were the equal of any Sept-members, and in the buffet room members of the Board and the choir mingled freely. It was a common pairing, even, musician and net.ninja, couples that were endlessly pictured in the gossip groups but never consented to interview.

It was no surprise to Lina when he came over. Sept-Barbara was one of the smaller foreign Septs that didn't have a house in Venice. Like many similar Septs, they were sponsored by one of the major Venetian houses. In this brother's case it was likely Sept San Marco or Sept Soriano. Lina had seen him talking to brothers wearing those

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Sept badges. No matter. He was attractive enough, Lina thought, a little pale but there was a kind of icy determination in crystal blue eyes. Lina found herself strangely intrigued. She had seen very few people with such extreme coloring.

He sat down next to her and inspected her plate. "The salmon mousse is good," he said. "Much better than I thought." Then he made a face. "Much better than this session is going."

"Oh?" Lina asked, only half politely.

He gave her a look that said she knew exactly what was going on. She smiled enigmatically and nibbled her salmon on crusty bread and sipped espresso.

"You know, it's like the music," he said between bites of salmon mousse on cucumber and slices of cheese melted on tomato and bread. "Only this time there's something wrong there. They don't listen to us, you know. The outland Septs could disappear for all they care. They have already made all the decisions and we have to go along without knowing any of the details. We can't even get discussion going on what will happen to the small Septs. Are we expected to affiliate with one of the larger organizations, and be absorbed by it? We like to think that having our own identity is a useful thing both for our clients and for the whole net."

Lina said nothing. She was bored already. Strange looks weren't enough to make up for the dull little inanities of the Board and the insecurities of those who were permanently angry that they were not at the center.

"And you know, the net began as an anarchy," the pale man said. "The whole idea of any group gaining too much power is absurd. Sometimes the larger Septs become drunk with their power and they forget where they came from. Where we all came from. My hosts more than any."

Lina had little tolerance for complaints. But the pale man had stopped complaining, and his tone at least was half-amused by the entire thing, rather than angry. She could respect that. She could respect it and still want to get away, not have to listen to chit-chat during a buffet break.

"But that's not the only problem," the stranger said, speaking more as if she were a Sept sister herself and not a singer who had never been in the net in her life. "There's also this idea of restricting access by 'unauthorized' users. What's that supposed to mean, 'unauthorized'? How would we get our apprentices if we didn't spot youngsters with talent? And they certainly can't think that we're going to take over all the drudgework of the kiosks. That's crazy."

Lina smiled by rote. "I'm sure no one wants to get rid of the kiosks. Probably a lot of what you're hearing is a problem in translation. It might be better if everyone was more careful about what they said and how they said it. We have more arguments over misunderstanding where people agree than where there really is a difference." Clichéd advice but true enough, and Lina was rapidly becoming bored. Maestro and three other Piëta singers had entered the room and Lina wanted to join them. She started to get up and felt a gentle hand on her wrist.

"Please, no," he said. "Please. You seem to be a decent person, I feel like I can trust you. You're a singer, you're not on the net, it can't hurt you. Even if it is death itself, you're immune. You singers, you keep the world in order. The rest of us can only be grateful."

"I'm only a singer," she said, trying to bring the conversation to an end. This Board member made her acutely uncomfortable. "I don't dabble in the politics of the Septs, I don't know a thing about the net. But I do know that one can't always keep perfect order and perfect

time. Then we would be purely something inhuman ourselves. Even the music, sometimes it changes. Sometimes it's Stravinsky, sometimes it's jazz."

The pale man's eyes went wide, as if the mention of Stravinsky and jazz was enough to threaten his existence. Maybe it was, but Lina didn't want to know about it. She smiled tightly and started to get up.

"No," he said urgently. "Only the musicians can help now. Otherwise we are in danger, all of us. Because there is tampering in the net. There is a strange thing that changes things, that wanders and doesn't respond to any of the usual actions. We know it, out at the edges, but the Venetian and New York and Petersburg and Seoul Septs, they won't listen to us. They pretend that it's all fine. It will take a musician to hear it, to know what it is. But we must never, ever play jazz or Stravinsky or any of those anti-thought composers. That will destroy us faster than anything else. That will mean the end of all civilization as we know it."

Lina did get up this time. "I'm sure this is very serious," she said, trying to treat him as if he had made any sense at all. "But I can't do anything about it. I can't help you more than I am. Now, if you'll excuse me, our break is over."

She put her plate on the service tray and retreated. Her break wasn't over yet and she knew better than to force her voice, so she disappeared into the changing room.

It wasn't as nice as the buffet room. There were no frescos on the walls or ceilings and plain floors instead of decorated tile and parquet. And there was no place to sit and no espresso, and a touch of chill seeped in from the window.

Lina wanted to cry. She felt abandoned again, exiled from the heart of the Piëta. She was only an orphan singer, not one of the powers in a city of power. Her mask began to fog slightly as her eyes grew moist, and she raised it in the privacy of the wardrobe. No one was there, no one would ever find her here.

She wanted to tear the hanging robes that lined the wall, wanted to put her fist through one of the diamond panes of glass that let in damp chill. She wanted to shake that Board member and make him see reason, that reason included other kinds of music. He could not, they could not, eliminate any composer that did not suit their fancy—or worse, the fancy of their system.

Even order and thought was not more important than the music. Lina was certain of that. The end of all civilization, the Sept brother had called it. Well, she knew better. It was the end of all civilization if they did not play Stravinsky, if they forgot all the music that was not approved for mental enhancement and net function.

She wanted to sing something, anything, that would make that Board member's face decently blue, as if he were properly masked in strange company. She hummed a few bars of something she remembered from the concert at the Luna Café. Suddenly she wondered if that concert had been part of the reason that the meetings were rough, that the Board was unable to come to a decision on anything.

If the things Sean had told her were true, the Board's troubles meant good for everyone else. Defiantly, she began to laugh.

